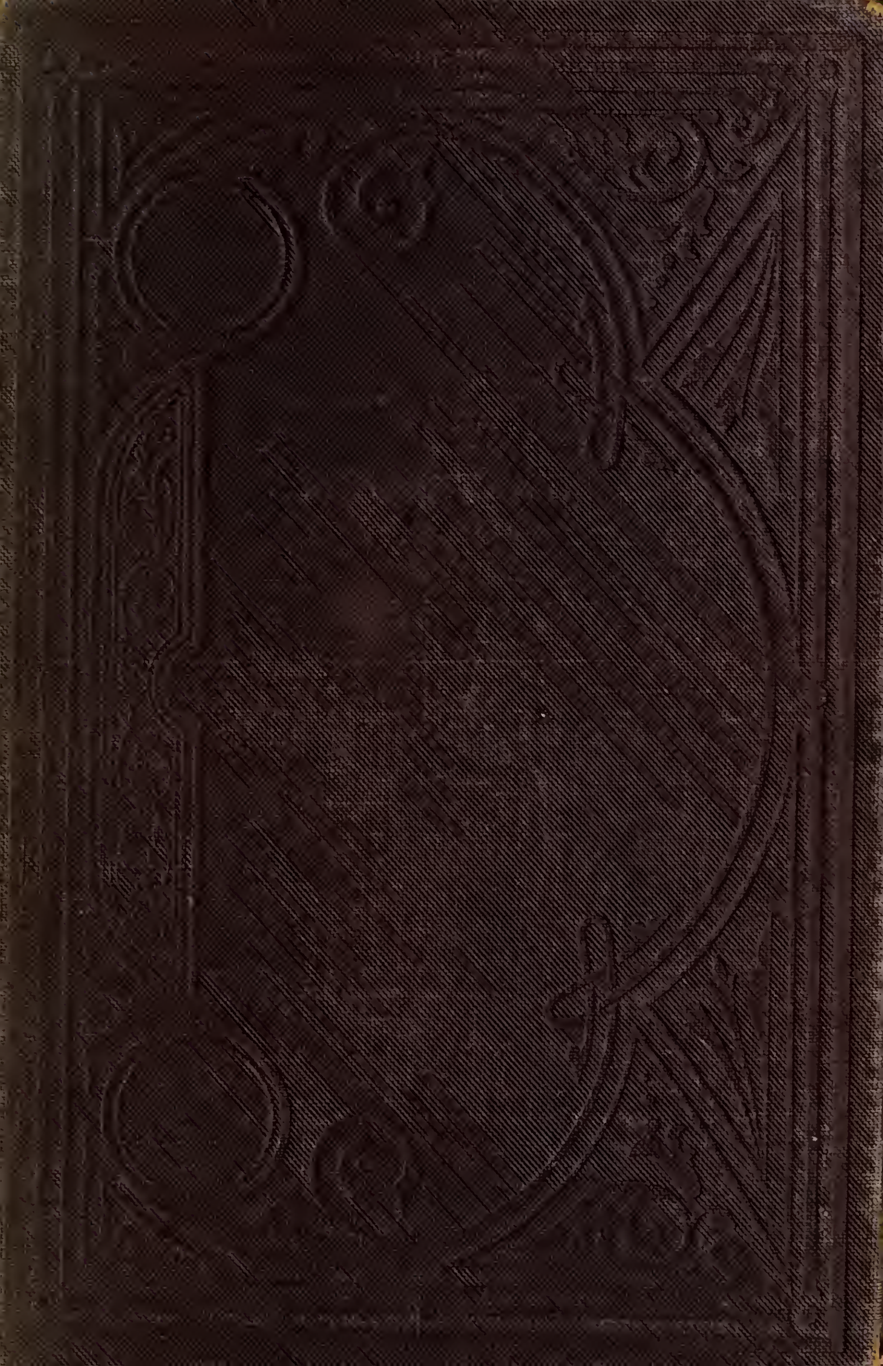

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MANUAL

OF

SCHOOL MANAGEMENT:

FOR THE USE OF

Teachers, Students, and Pupil-Teachers,

BY

THOMAS MORRISON, M.A.,

RECTOR OF THE FREE CHURCH TRAINING COLLEGE, GLASGOW.

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PREFACE.

The hints contained in the following pages were originally designed for the use of the students attending the Glasgow Free Church Training College. Observing that the want of a text-book, which the students might consult at their leisure, interfered, to a very considerable extent, with the practical efficiency of lectures on School Management, the author compiled this Manual, which is now given to the public in the hope that the results of a somewhat large experience, therein recorded, may be of some service to young and inexperienced teachers. It has been the author's aim to render the hints clear, and, at the same time, thoroughly practical. Nothing has been set down which experience has not proved attainable in elementary schools. From the plan of the work, there may appear more repetitions than are necessary, but it was deemed advisable, even at the risk of somewhat marring mere literary effect, to treat each subject of instruction by itself.

Exercises, taken for the most part from the papers set at the examinations held under the authority of the Committee of Council on Education, have been appended to almost all the chapters, with the view of directing attention to the points considered important by the Inspectors of schools, who prepare these papers, and whose great experience and enlightened views enable them to propose questions of a very suggestive nature.

The author has availed himself of all the sources of information within his reach—in no case, so far as he is aware, without due acknowledgment. He acknowledges himself largely indebted to the works of Mr. Stow, and to the brief but remarkably suggestive "Prize Essay on Education," by the Rev. David Smith.

In issuing a fifth edition of this Manual the author has made several important additions and alterations. The chapters on Classification and Registration have been almost entirely re-written, so as to bring them into harmony with the requirements of the Scotch and English Codes. In these chapters the teacher will find full and detailed information on every point claiming his attention. Specimens of Form IX, and of the Examination Schedule have been inserted, with clear directions as to the best mode of filling them up. In the other parts of the book such corrections have been made as appeared necessary. The favour with which the Manual has been received by the public has induced the author to endeavour to render this edition as complete as possible.

GLASGOW, *August, 1874.*

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MANUAL

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CHAPTER I.—INTRODUCTION.

Object of Education.

1. EDUCATION, in its widest sense, has reference to the whole man; to man considered as a physical, an intellectual, and a spiritual being; and aims at bringing to the highest possible degree of perfection the various faculties with which our Creator has endowed us, and this in accordance with the laws by which these faculties develop themselves. If any part of our complex nature is overlooked, or neglected, our educational processes are, to that extent, defective.

Importance of a knowledge of Physical Laws.

2. The body requires to be educated. It comes into the world, as a rule, complete, but requires much care and attention to bring it to perfection. The little child is, physically, the embryo man; and we do not require to alter or remodel any of its parts or members. Our duty consists in supplying it with those things necessary to its growth, and, when these are furnished in due proportion, and according to the necessities of the animal frame, we leave it to follow its own law of expansion, and day by day we see it growing, and attaining to that degree of strength and consistency which constitute its perfection. It grows in obedience to law, and we cannot tamper with the laws which regulate its healthy and harmonious development

without producing positive mischief. Thus, exercise and fresh air are necessary conditions of the body's healthy growth in childhood, and if we deprive it of either of these conditions we shall, to the extent of that deprivation, do what in us lies to make an abortion of what God made one of his chief works. By observing those things which are necessary to the free spontaneous development of our physical nature, the teacher is enabled to deduce many valuable rules for his guidance in the actual business of education. Hence it were desirable that all teachers were more or less acquainted with the operation of those laws which govern the wondrous mechanism of our bodily frame.

Importance of a knowledge of Mental and Moral Laws.

3. But if this is true of our bodily frame, it holds especially true of our mental constitution. By those fine sensations, implanted for wise and beneficent ends in our "muddy vesture of decay," we are enabled very readily to discover when any part of the complex mechanism goes out of joint. The child makes known the existence of physical derangement by its cry of pain, and we are generally able to lay our finger upon the exact point where the derangement exists, and, to a greater or less extent, remove the cause of it. But with the mind it is far otherwise. We cannot, with the bodily eye, see its gradual growth, nor can we, until often too late, discover the contortions and disfigurements which a wrong mode of treatment may have produced. Hence it is all the more necessary that teachers make themselves acquainted with those laws which regulate the growth and development of the mind. We do not propose to enter upon the investigation of these laws; the teacher can easily lay his hands upon many admirable manuals which professedly treat of this subject. We shall merely give one or two very simple illustrations of the practical application of those laws, which have been deduced from a careful analysis of our mental powers.

Development of the Mental Powers.

4. The various faculties of the mind develop themselves in a given determinate order, and cannot be safely forced into premature action. Now there is not, perhaps, one fact more startling and pregnant with warning, than that this law of the development and growth

of our mental faculties is practically ignored in many of the educational processes of the present day. The tendency, which is increasing in vehemence from day to day, is to secure fruit at whatever cost. The farmer sows his seed in spring, waits patiently for the rain and sunshine of summer, and expects the harvest in due season. We desire to have spring, and summer, and harvest all at once. The driving, the spurring, the mental excitement so characteristic of the present day, have entered the school, and the evil consequences are beginning to be felt. The first question seems to be, not how may I best train this child in accordance with a due regard to those laws which an all-wise Creator has impressed upon his mental being, but how may I most readily cram him with certain facts, falsely called education? The law of which we are speaking is overlooked. We do not take into our reckoning the important fact, that, in our haste to make the child intellectually rich, we may be running in the very teeth of those inflexible laws which will not change at our bidding, and which we cannot violate but at our peril. We forget that as the growth of the body depends not upon the mere amount of food received, but upon its being supplied in proper quantities and at proper times, and upon its adaptation to the exact wants of the system; so the growth of the mind depends not on the amount of information communicated, but upon its adaptation to the exact stage of development at which the mind has arrived. A due regard to the conditions of the law of which we are speaking would surely tend to diminish, if not altogether to extinguish, this unnatural desire for too rapid advancement. We are quite aware that the teacher is not altogether to blame in this respect. Foolish parents frequently expect him to educate their children in a space of time utterly inadequate to that great end. So many openings in business occur for boys in a commercial country like ours, that parents, more anxious for the worldly advancement of their children than for their intellectual and moral improvement, seem to grudge every day spent in school after the child has come to an age when he can be useful in the office, the shop, or the counting-house. But while we admit that part of the blame should deservedly lie on the parents, we are afraid that teachers cannot be entirely absolved from their share; knowing, as they ought to do, the existence of the mental law we have specified, they are unable to exercise so much self-denial as to adapt their educational processes to its requirements. We would earnestly beseech the young teacher to make this law of the development of the mental faculties his special study, and to resolve that, whatever others may do, he shall not outrun its requirements. Let him carefully avoid anticipating the time which nature has fixed for the appearance in active exercise of any one of our wondrous faculties. Let him not overdraw the account with the future.

All Minds alike in Kind but different in Degree.

5. Again, whilst all men have the same grand distinguishing characteristics of mind, whilst the mind of one man is, in its essence, the same as that of all, there are great and specific differences —differences, however, of degree—not of kind. Our technical language of science is apt, in this respect, to mislead us. We talk of mental powers, mental faculties, of conception, fancy, reason, and so on, until we are almost led into the belief that the mind, like the body, consists of distinct component parts, which go to constitute its whole. The mind, however, is one, but possesses the power of manifesting its existence to our consciousness by various operations. It is a unity—one indivisible organ, which peals forth many different notes. In the material world we have a solid crust, which underlies the various eminences which appear on the earth's surface. In the mental world we have the one essence—mind, common to the whole human family. But as the material world is not all one dead uniform level; as we have lofty mountain peaks, hiding their heads in the clouds, and eminences lower and lower still, till we reach the ordinary sea-level; so it is in the world of mind. We have giant intellects, fitted, by a sort of native strength, to grapple with the most intricate problems of the universe; who can thread their way, with ease and safety, through mazes and labyrinths of reasoning, where others, less highly gifted, can scarcely grope their way. Now, it is to be observed, that these differences are innate, are anterior to education, and independent, to a large extent, of education or external circumstance. They exist in spite of us, and if, in our educational processes, we overlook this important fact in the mental

constitution of different individuals, we are certain to do much injury.

Importance of this fact in Classification.

6. The application of the fact to which we have alluded is easy. Were it kept constantly in mind, the absurd lengths to which place-taking, for example, is carried, would be modified, if indeed the practice were not altogether given up. The fact in our mental constitution of which we are speaking furnishes the basis of a true and just classification of children. Every one knows, however, that it is almost an impossibility to classify pupils on this principle, inasmuch as we have no infallible test whereby to gauge their mental powers. But surely this very circumstance should make us all the more careful not to pit against each other, in the deadly strife of place-taking, children whose mental endowments may differ very much in degree. Were we able to classify our pupils so that every child in a given class had the same mental powers equally developed, there might be room for, and decided benefit in, place-taking; but as we cannot, in the nature of the case, so classify them, we may, by allowing place-taking, be doing grievous injustice to the boy who is dux, as well as to the boy who is at the opposite end of the class. The one we may be praising for what it was merely his duty to do, and the latter we may be blaming for not doing what it was out of his power to accomplish. In like manner the judicious and wise teacher, who has the happy gift of discovering what faculties in any particular pupil are vigorous and strong, and what are stunted and weak, will so arrange his lessons that, whilst the one class is not allowed to run to riot, the other is cherished and strengthened.

And in Discipline.

7. The same fact, to a certain extent, assists us in dealing with that most delicate and difficult subject—punishment. Of two boys who have both failed in the same task, the one may deserve punishment, the other may not. The one was able to perform the task, but did not do it; the other would gladly have done it, but could not. It would be an interesting and useful inquiry to determine how far the same arrangement obtains

in the region of morals, which we have indicated as obtaining in the region of intellect. We believe the same laws regulate both departments, and that a moral treatment which might suit one child might be most unsuitable for another. Of two boys who may have committed a moral offence, the one may deserve punishment, the other may not. From constitutional causes—causes which frequently lie too far back to be within the reach of our cognizance—the moral nature of a child may have received a bias, which, if we do not take it into account in our dealings with that child, may defeat all our plans, however wise and suitable they may appear. In regard to their intellectual nature the teacher should carefully observe the degree in which his pupils are capable of exercising their mental faculties, so that he may be able to guide and direct the more talented, without doing injury to their less gifted fellows; and in regard to their moral character, let him carefully watch the tendencies of his pupils, so that he may be able to cherish all that is good, and to uproot all that is evil.

Study of Mental Philosophy.

8. We might multiply these examples to almost any extent, but we must forbear. Our object is not to write a treatise on the laws which regulate the development of our mental powers, but to suggest to the young and inexperienced the method whereby they may render themselves familiar with the science of education. The teacher who desires to rise above the region of mere empiricism, would require to be well versed in mental philosophy. We deem it necessary, however, to throw out a caution at this point. When we speak of mental philosophy, we do not mean an acquaintance with the countless theories and paradoxes which he will find in the writings of almost all metaphysicians, but with those simple and easily discoverable laws of our mental frame which are obvious to any man who chooses to reflect.

Religious Education.

9. In the previous paragraphs we have spoken of physical and intellectual education. Before concluding these introductory remarks, we must notice that education has respect not only to the life that now is, but also to that which is to come. The

child is not all body and intellect—he is not limited to this present state of being. By the very law of his existence he is connected with an unseen and future state; and this present life is but the preparation-time for the life to come. It is only by a reference to the next world that we can solve the enigma of the present. We must accordingly see to it that, while we are imparting that knowledge which may fit the child for discharging his duty in this life, we are also communicating that which may, by God's blessing, prepare for the life to come.

Its Essence.

10. We shall have occasion in the sequel to enter somewhat largely into the question of religious instruction; and, in the meantime, we may simply remark that, as to the reception of religious knowledge, every child requires to be brought into a new relation to the Creator from that in which it is by birth. We must not overlook the grand facts in man's spiritual history—the fall by sin—the recovery by a Saviour. Round these facts all our religious teaching must revolve. Nor do we deem it necessary to enter upon any refutation of the opinion that the teacher should not teach religion. The teacher cannot be neutral in this matter. If he is not for God, he is against Him. If he does not direct the minds of his pupils to the word of the Living God, to the manifold traces of His goodness and bounty which meet us on every hand, if he studiously keeps God out of school, his influence is on the side of Atheism. If he does not tell his scholars of sin and salvation, he is doing all he can to lead them to neglect those things which are of the highest moment. It would be no difficult matter to show that an education on purely secular principles is an utter impossibility. We would earnestly impress upon the young teacher the duty of examining carefully into this subject, so as to be able, in the day of trial which seems drawing on, to let his influence be felt on the side of that system of religious training which, with many drawbacks, has yet made our country what it now is. We may conclude these desultory observations in the noble words of Milton,—"I call that a complete and generous education which fits a man to perform justly, skilfully, and magnanimously, all the offices, both private and public, of

peace and war. The end of learning is to repair the ruins of our first parents, by regaining to know God aright, and out of that knowledge to love Him, to imitate Him, to be like Him, as we may the nearest, by possessing our souls of true virtue, which, being united to the heavenly grace of faith, makes up the highest perfection."

CHAPTER II.—THE TEACHER.

The Teacher must be an Educated Man.

11. The teacher must himself know the subjects he undertakes to teach. To the extent of his acquirements we would assign no limits but those which God has assigned. The more he knows, the better fitted he is for being an instructor of youth. In making these acquirements, however, the young teacher would require sedulously to guard against the besetting sin of most young students, of putting quantity for quality. It is not the amount of a man's knowledge which makes him an educated man. A man may have a smattering of almost all learning, and yet may not be so wise as he who knows but one subject, but knows that subject well. While, therefore, the teacher endeavours to acquire as much knowledge as he can, he should endeavour to acquire it in a methodical, systematic manner. Let each newly acquired fact be connected with facts previously acquired—let it be put in its proper place, so as to be within call when wanted, and thus all his knowledge will be serviceable to him. He will have learned the grand distinction, which so few learn, between knowledge and wisdom. The teacher should also avoid a desultory mode of study. Not they who lightly skip from spot to spot, but they who walk with firm, cautious step, "leave footprints on the sands of time." On the other hand, it is as necessary to guard against ceasing to learn. Flushed with success at coming off a first-class man at the Government examination, and being appointed to a school in a rural district, where the incentives to study are few, and where,

with the exception of the minister, he is looked upon as the most learned man of the neighbourhood, the young teacher is apt to imagine that he has no more occasion to study. Vain imagination!—his study is then but beginning; and the moment he has come to the conclusion that he has nothing more to learn, it is high time to give up teaching. Each day's lesson, however simple, will require careful study; and he has not yet learned aright his responsibility, who would venture to appear before his youngest class without most careful preparation. In the stillness and silence of his own room, let him marshal, in imagination, his class before him, take up to-morrow's lesson, arrange its parts, observe what are its difficulties, and endeavour to find out how best he would explain these difficulties to the minds of his scholars. It is thus that he will come forth each morning with fresh thought, as food for those placed under his charge; it is thus that he will awaken their intellectual life, and mould their plastic minds. Still further, let his studies bear more or less directly on his school-work. Let it be the centre round which all his pursuits revolve, and it is wonderful how many hints and suggestions he may receive from things which otherwise might have passed unnoticed. In his vacation, does he take a tour through the country, let him mark well its remarkable geographical features, so that, in his geography class, he may be able to describe graphically the particular spot. Is he reading the ballads of his country, let him commit to memory a few of the more spirited stanzas, descriptive of battles or of marches, so that, in his history class, he may, by reciting these grand old verses, kindle the enthusiasm of his class, and thus impart an interest to what is too often a dry detail of battles, reigns, and treaties. But it is needless to enlarge—in one word, let him

> "Find tongues in trees, books in the running brooks,
> Sermons in stones, and good in everything."

The Teacher must be a Trained Man.

12. Not only must the teacher have the knowledge to communicate, he must also know how to impart it. He must be well versed in the use of the tools he has to work with, and well acquainted with the material he has to work upon. This great truth is now distinctly recognised by all educationists,

at least in theory. It was long ignored, and the evil consequences were manifold. But it is not enough even to know how to impart knowledge. The teacher should have a thorough knowledge of children. For this purpose he must study them in the play-ground and in the school-room. Their modes of thinking, their dispositions, tempers, and habits must be carefully investigated; and so investigated and appreciated, that the teacher may be able to put himself in their position, see their difficulties, rejoice in their joys, and sympathise with their sorrows. And let no one imagine that being child-like is childish. The great lights of this lower world were all child-like. Pestalozzi was child-like, and so was Arnold. The teacher has reached a certain stage of mental development. The process by which he arrived at that stage has been a long one. It was not attained by one gigantic effort. It was, in his case, as in the case of all men, line upon line, aye, sometimes dot upon dot. But to bring the children up to his own platform, it will not do for the teacher to tie a rope round them, and rudely swing them up. It will not even do for him to stand in conscious superiority, on his elevated position, and *tell* them to come up. He must retrace his steps, one by one, until he *comes down* to the children waiting below, then taking them lovingly by the hand, he will guide their tottering feet up one step, then another, until they reach the top. He must *train* them to scale the ladder, not tell them how to do it. Some men begin the child's education at the point which they themselves have reached, instead of coming down to the child's standpoint and commencing there. We must take up the child at the point *he* has reached, and carry him forward, as he is able to accompany us. And this holds true of all learners, be they children of five years, or children in mental attainments of fifty. He will most undoubtedly be the most successful teacher of youth, who, to his knowledge, adds the power of imparting knowledge—who can travel back the road over which he has wearily toiled in the acquisition of his own knowledge, and can lead the child along that road surely and safely.

The Teacher should be an Earnest Man.

13. The teacher should be an earnest man—one whose whole heart is in his work, and who loves his work, as that special field of labour to

which God has called him. He should be one who is conscious that he has a work to do which is inherently noble, and which, if done in the proper spirit, may result in a glorious harvest of good to man and of glory to God. The work is great, and he who would do it well would require to be in earnest. He would need to magnify his office, and thus rising to the full dignity of his position, he will feel that it is no mean thing to have in his hands the colour and complexion of the destiny of generations yet unborn. "It is much to be lamented," says the eloquent author of "Life in Earnest," "that there are so few enthusiasts in this honourable and important work. Many who are engaged in it regard it as a kind of bondage, and sigh for the day which shall finally release them from its drudgery and din. They have never felt that theirs is a high calling, nor do they ever enter the school-room with the inspiring consciousness that they go as missionaries and pastors there. They undervalue their scholars. Instead of regarding them as all that now exists of a generation as important as our own; instead of recognising in their present dispositions the mischief or beneficence which must tell on wide neighbourhoods ere a few short years are run; instead of training up immortal spirits and expansive minds for usefulness now and glory afterwards, many teachers have never seen their pupils in any other light than as so many rows of turbulent rebels, a rabble of necessary torments, a roomful of that mighty plague with which the Nile of our noisy humanity is all croaking and jumping over. And many undervalue themselves. Instead of recollecting their glorious vocation, and eyeing the cloud of teacher-witnesses with whom they are encompassed; instead of a high-souled zeal for their profession, as that which should form the plastic mind after the finest models of human attainment and scriptural excellence, many regard their office as so menial that they have always the feeling as if themselves were pedants. But there are few fields of brighter promise than the calling of the teacher. If he give himself wholly to it; if he set before him the highest object of all tuition, the bringing of souls to Christ; if he can form a real affection for his scholars, and maintain a parental anxiety for their proficiency and their principles; if he has wisdom enough to understand them, and kindness enough to sympathize with them; if he has sufficient love for learning to have no distaste for lessons, he will be sure to inspire a zeal for study into the minds of many ; he will win the love of all except the very few whose hearts are deaf-born ; and, in a short time, the best features of his own character will be multiplying in spheres far sundered in the kindred persons of grateful pupils. Should he live long enough, they will praise him in the gates of public life, or cheer his declining days in the homes which he taught them to make happy. Or should he die soon enough, the rest from his labours will ever and anon be heightened by the arrival of another and another of the children whom God hath given him."

The Teacher should be Cheerful and Hopeful.

14. Some are continually looking on the dark side of life. They see only the sombre clouds which float above them, and can discern no glimpses of sunshine breaking through. But a wise and beneficent Creator has so formed children that they are to a large extent ignorant of those evils which so embitter man's life. They see the sunshine, but can discern no gathering clouds. It is, accordingly, of vast importance that the teacher should be able thoroughly to sympathize with this law of life in children. Dr. Arnold says truly—"His chief characteristic ought to be, that he can rejoice with them that do rejoice." He moves among those who, in a great measure, are strangers to grief and sorrow, and whose young hearts have never known what real trial is ; to whom the present is full of enjoyment, and the future appears as if tinged with gold. This is God's appointment ; and we believe that it is as unnatural to see a child bowed down with grief, as it is to see a man of eighty attempting to engage in the boisterous sports of childhood. Children are buoyant and hopeful ; and any attempt to force them into premature gravity will be attended with disastrous consequences. And, accordingly, the teacher who knows the appliances of his art will fall in with this feature of childhood. He will not seek to arrest the full tide of life as it bounds bravely on, but will endeavour simply to regulate and guide it. And in order to this, he will need to cherish in himself the feelings of childhood—to retain his youth ever green ; and if anything can do this, it is surely the happy, joyous

laugh of children at their play—"a sight to make an old man young."

The Teacher should be Simple.

15. The teacher should be simple in his thoughts, and in the expression of them. He must address his pupils in language easily understood. He must use no *sesquipedalia verba* with them. He must lay aside all affectation of learning—all affectation of every kind, and stand before them a simple-minded earnest man. Unless he do so, he will often labour in vain. He may pour forth a torrent of eloquent, high-sounding words, but no smile of intelligence will lighten their faces—no symptom of their understanding him will betray itself. Whereas, if he make himself easily understood, bring down his language to the level of the meanest capacity, he may expect that it will take root, and produce the desired effect.

The Teacher should be Lively and Energetic.

16. The teacher should be lively in manner, and energetic in action. We care but little for those who seem continually crawling towards some object which they can never reach; whose face is never lighted up by a smile, and whose step possesses no elasticity. Liveliness or its opposite are infectious; and as the teacher is in this respect, so will the scholars be. If the teacher is dull, heavy, and moves about with his hand driven down into his pocket, his lack-lustre eye and heavy gait will affect the scholars, and they will exhibit these qualities too. But, on the contrary, the life and energy of the teacher will infuse life and energy into the pupils; and when they see his beaming eye and lively movements, they will catch the same spirit, and all school-work will move on most sweetly. But it is necessary to distinguish between liveliness and boisterousness. In proportion as the one is to be sought after, the other is to be avoided. Mere noise, vehement bodily gestures, loud vociferations, are by no means necessary, nay, are carefully to be shunned. Here, as in all things else, extremes are to be avoided. *Medio tutissimus ibis.*

The Teacher should be Patient.

17. The teacher should be very patient; capable of commanding his temper; not

given to rash anger. There will be much to try his patience and his temper too. He has to contend against much ignorance, and often against much obstinacy. Frequently he will find that, after explaining a subject with much care, he has to begin anew, and explain again. Frequently he will find his forbearance requited by ingratitude; his love returned by ill-will. But amid all these trials he must never lose self-command. The moment he does so his power is gone. If he bursts into anger, he arrays against himself all the angry feelings of the children, who, in such a case will infallibly bristle up, and take part with the culprit against the master. The words of Solomon hold true here—"He that is slow to anger is better than the mighty, and he that ruleth his spirit than he that taketh a city."

Coleridge's lines on Education.

18. O'er wayward childhood wouldst thou hold firm rule,
And sun thyself in light of happy faces;
Love, Hope, and Patience, these must be thy graces,
And in thine own heart let them first keep school.
For as old Atlas on his broad neck places
Heaven's starry globe, and there sustains it, so
Do these uphold the little world below
Of Education—Patience, Love, and Hope.
Methinks I see them grouped in seemly show,
The straightened arms upraised, the palms aslope,
And robes that touching, as adown they flow,
Distinctly blend, like snow embossed in snow.

O part them never! If Hope prostrate lie,
Love, too, will sink and die.
But love is subtle, and doth proof derive
From her own life, that Hope is yet alive;
And bending o'er, with soul transfusing eyes,
And the soft murmurs of the mother dove,
Woos back the fleeting spirit, and half supplies;—
Thus Love repays to Hope what Hope first gave to Love.
But haply there may come a weary day,
When overtasked at length,
Both Love and Hope beneath the load give way;
Then with a statue's smile, a statue's strength,
Stands the mute sister, Patience, nothing loath,
And both supporting, does the work of both.

The Teacher should be a Christian Man.

19. We have seen that the child's education should have respect to the next life, as well as to this; that his moral and spiritual nature must be cultivated. To do this adequately—to do this at all—the teacher must be one who himself can appreciate, and rightly value, the true end of all education. The Scripture injunction is—"Train up a child in the way he should go;" but no man, who does not himself walk *in* the way, is fit so to train the child. The man who has no adequate sense of the value of his own soul, will not be likely to impress the young deeply with the value of theirs. The man who has no love to the Saviour animating his own breast will not be likely to kindle this holy flame in the breasts of his pupils. Indeed, the value of religious instruction will depend not on its amount, but on the spirit in which it is given, and on the effect which it is seen to produce on the master himself. We care but little for the religious instruction which consists in a mere knowledge of the historical facts of Scripture, or in the committal to memory of certain psalms and catechisms. Not that we undervalue either the psalms or the catechism. But we do most emphatically lift up our voice against the too common notion that such things constitute religious instruction. It is quite possible to have an education thoroughly godless, even where the Bible is read every morning. Let us have, by all means, the reading of the Bible; but, in addition, let us have in the teacher himself a man who breathes its spirit, and who is animated by its principles. The master who has this spirit will make his christianity a living power, which will pervade the whole school. He will not confine his religious teaching to any set formal exercises. He will embrace every opportunity of directing his pupil's mind upwards. He will desire to have in him the same mind as was in Christ; and, himself a living man, he will endeavour to bring his pupils to Him who is the life of men. Verily, the teacher's work is a high and a noble one; it is also one involving, in the right discharge of it, tremendous responsibilities; but, "if any of you lack wisdom, let him ask of God, that giveth to all men liberally, and upbraideth not, *and it shall be given him.*"

CHAPTER III.—THE SCHOOL.

The School Site.

20. The situation of the school is too often beyond the control of the teacher. In country districts, it ought to be placed in the position which is most accessible to the great bulk of the population. This, to a certain extent, fixes its locality; but, in too many cases, this is all that is taken into account. Indeed, it often happens that its position is determined by the worthlessness of the soil. The proprietor on whose land it is to be built, looks out for a piece of ground which is altogether unproductive, and, with a semblance of generosity, grants it as a site for the school. There is something radically wrong in all this—something which shows that, notwithstanding our vaunted educational progress, we have still much to learn. In this respect, the Church of Rome might teach us an important lesson. We find her churches and abbeys, for the most part, situated in the choicest spots of those countries where she is predominant. Her worship is sensuous; matters of sense take the precedence of those of faith. She walks by sight, and dexterously turns to her own purpose the very earth on which we tread. Knowing that the love of the beautiful in nature, as well as in art, is inherent in the human breast, she rears her temples amid the beauties of nature, and garnishes them with the choice treasures of art. She carefully cultivates the merely sensuous part of our nature, that with firmer grasp she may retain her sway over the spiritual. But the abuse of a thing is no reason why we should not legitimately use it. Because the church of Rome has so grossly abused this principle of our nature, that is no reason why we should not, by all lawful means, train and cultivate it. The position of the school would assist us in this respect very materially. Let it be placed where it commands a pleasing and varied prospect, where the eye can freely range over all that is beautiful in the landscape, and silently, but surely, the mind will imbibe the spirit of the scene, and will

learn to appreciate the beauties which God has so profusely scattered around. It is impossible to trace fully the effects produced on the mind by the scenery among which it works. We know the effect is great. We see, in the grand bursts of Byron, the effects produced on his susceptible mind by the magnificent scenery of Switzerland and Greece. We can trace, in the case of the present Poet Laureate, the effects produced on his mind by scenery, from the continual recurrence in his writings of allusions to the low swampy fens, and wild bleak wolds of England. Wherever it is possible, the school should be situated in the district most accessible to the bulk of the population, and in that part of the district which possesses, to the largest extent, the varied elements which go to constitute beauty of scenery. The situation ought to be dry—equally removed from anything which might tend to produce unusual heat, or damp. Where a situation naturally dry cannot be secured, great care should be taken to have proper drainage. The neighbourhood of marshes, or stagnant pools, should be carefully avoided, as the malaria arising from them is most prejudicial to health. In towns, it would be advisable to remove the school as far as possible from crowded noisy thoroughfares, and especially from streets known to be frequently infested with fever.

The Size and Form of the School.

21. The size of the school must depend on the number of children to be educated. In general it is found that eight square feet of area are sufficient for each child. A school to contain 100 scholars should thus have an area of 800 square feet. In actual practice, this will allow more than the required number of square feet to each child present on any given day. In all schools there are a few absentees, and if the number of scholars on the roll never exceeds the number for which the school was built, there will always be a considerable margin of area to go upon. The form should be oblong—this is found in practice the most convenient—the proportion between the length and breadth varying as the size of the area. For sanitary reasons, it is extremely desirable to have the ceiling high; 13 or 14 feet is the lowest that should be allowed.

Heating and Ventilation of the School.

22. The heating and ventilation of the school should be carefully attended to; for on these the health and comfort of the pupils will very materially depend. It may not be the most scientific mode, but yet we must confess that we have a strong predilection in favour of open fire-places. There is something in the sight of a good fire which gives an air of comfort to a room; whereas the same amount of heat coming from a stove does not seem to produce the same effect. A stove will save a considerable quantity of coals, and, if placed properly, may not be so apt to cause draughts as an open fire-place, and on these grounds is perhaps to be preferred. But be this as it may, the main point to be attended to is to preserve, as far as possible, an equable temperature. For this purpose, every school should be furnished with a thermometer, as the only true test of the temperature. Too often the teacher judges of the proper amount of heat by his own sensation; but this varies so much with the condition of the body as to health and strength, that it should never be trusted. The same amount of heat which may make the room feel oppressively hot on one day, may make it feel chill on another, inasmuch as the teacher's health may vary on the two days. A thermometer is the only safe guide; and now that they can be obtained so cheaply, it would be well for every school committee to place one in their school. And no less necessary is it to pay particular attention to the ventilation. Of the two, the ventilation is more likely to be neglected. We can tell when a room feels warm or cold; but we cannot so easily tell when we are breathing an impure atmosphere. Hence all the greater need that the teacher attend to the due and thorough ventilation of his class-rooms. Various devices have been proposed to secure good ventilation; many of them look beautiful exceedingly on paper, but, somehow or other, they are impracticable; and so we are reduced to the old-fashioned mode of ventilating our rooms by the windows and doors. The school which has windows that open can at all times be supplied with fresh air, and the teacher has himself to blame if the ventilation is not good. Every time the children go to the play-ground the rooms should be thoroughly aired; and, to secure uniformity

in this, one of the pupils should be appointed for the special purpose of attending to it. His duty will consist in opening the windows when the pupils retire from, and in shutting them when they return to, the class-room. If any of the windows require to be open during school hours, great care should be taken to have them so arranged as to prevent draughts from playing on the children's heads. The really earnest teacher will be known, not only by the amount of knowledge which he communicates to his pupils, but by the care which he takes in so arranging everything as to secure, as fully as may be, their health and comfort. It is only when the teacher personally superintends these arrangements that they will be effectually made. And let no one consider the time spent on these minutiæ as lost. The order, the harmony, the very life of a school, depends far more than we are aware of, on minute attention to these matters. A badly ventilated room makes the children restless. This restlessness frets the teacher's temper, he gives way to petulance and anger, and all things get out of joint; whereas, an abundant supply of fresh air invigorates the pupils, animates the master, and the work goes briskly on.

School Furniture.

23. Under this head we can only indicate the more important items, as the furniture will depend much on the kind of school. Our remarks will be applicable chiefly to a mixed school, such as our ordinary parish schools. We shall reserve our remarks on the benches which ought to be used until we come to speak of organization. Every school should be furnished with one or more black-boards, according to circumstances. The uses to which a black-board can be applied are manifold, and so well known that we need not dwell upon them. A plentiful supply of maps and charts is also necessary, for the purpose of teaching geography. There should be one or more globes in every school; and, if possible, a few maps in relief. The use of these will be pointed out when we come to speak of geography. For the purpose of illustration in the ordinary reading lessons, and more particularly in oral lessons on points of science, a small laboratory is extremely useful. It need not be an expensive one. An air-pump, models of the more common philosophical instruments, a small set of chemical apparatus,

and such like, would be sufficient, and would furnish a never-failing source of instruction. For a like purpose each school should be provided with a small museum. This only requires a beginning, and it will rapidly grow. Let the teacher set the example, and he will soon find abundance of specimens flowing in. The pupils will take all the more interest in it, inasmuch as it is their own; and in a few years, not only will all the curiosities of the neighbourhood be stored up, but contributions from other parts of the country, often from other lands, will be given by those who were formerly pupils in the school. With these there is closely connected a good supply of prints, pictures and diagrams for the walls. The great point to be attended to in the selection of such, is to procure those which are interesting in subject, and good in execution. Better far be without any prints or pictures, than have badly executed ones continually staring the pupils in the face, tending not to educate their taste, but to deprave and vitiate it. Good ones are now to be had at a price so reasonable that there is no excuse for being without them. Diagrams, such as those published by the Messrs. Johnston as illustrative of Natural Philosophy, by Reynolds and others, ought to be in every school. And here it may not be out of place to say that School Committees stand in their own light, and hamper the operations of the teacher, when they refuse, from mistaken notions of economy, to provide such apparatus and diagrams. Too often the teacher is allowed to purchase such things at his own expense, which, considering the general amount of remuneration allowed him, is a burden which he has no right to bear. Let not the young teacher, however, despair, even should he find his school destitute of many of the appliances we have mentioned. Where there is a will there is a way; and he who is in earnest in his work will soon find expedients whereby he may, to a certain extent, supply the want of them. Very frequently, the fact of having difficulties of this nature to contend with, brings out the really good teacher, and trains him for triumphing over difficulties even greater than these.

The Play-Ground. 24. Every School, whether situated in the town, or in a country district, should have a play-ground as a necessary and indispensable appendage. In country districts, enclosed play-grounds are seldom found attached to schools, from an idea—which we shall show to be entirely erroneous—that as they serve only as exercise-ground for the pupils, they are not needed where plenty of ground exists ready to hand, in the adjoining common, it may be, or wood, or field. In towns play-grounds are objected to on account of their expense, and where they exist, they are too often employed for no other purpose than that of keeping the children from the streets. Even this much is good, but the play-ground should be turned to far higher and nobler purposes. It is the theatre on which each child plays his natural part, and where his temper, disposition, tastes, and habits may be most completely observed. In school the child is, to a certain extent, under restraint; he feels that the master's eye is upon him; he knows that any violation of propriety, any exhibition of temper, of selfishness, or any bad feeling, will likely be detected and punished, and accordingly he restrains himself. Hence, the master who merely knows his pupils from his observation of them in the school, may easily form a mistaken estimate of their character and disposition; but the play-ground allows the exhibition of what they really are. Here the child is himself, and whatever be his disposition or temper, it will, to a certainty, manifest itself at play. Is the child rude? unfeeling? selfish? it will be seen in the way he treats those younger than himself, and cringes to those superior to him in years or strength. Is he quarrelsome? rash? and easily enraged? a game at marbles will infallibly bring this out. In short, if the best study of mankind is man, the best study of schoolboys is schoolboys at play. They are then seen in their real character, and the skilful observer will have little difficulty in detecting the peculiar idiosyncracy of each child. But it may be asked, what has this to do with education—we shall answer the question in the deeply significant words of Dugald Stewart—"to instruct youth in the languages and in the sciences is comparatively of little importance, *if we are inattentive to the habits they acquire*, and are not careful in giving to all their different faculties, and all their different principles of action, a proper degree of employment." The child's education does not consist in knowing the genealogies of all the kings of England, with the dates of their accession, the number of their wives and children, and such-like details. The child's religious and moral education does not consist in his ability to repeat, without mistake, the hundred-and-nineteenth Psalm, or the whole of the Shorter Catechism. You must give instruction!—true, but you must also reduce that instruction to practice, and nowhere can this be done so effectually as in the play-ground. The teacher who is anxious to see the effect produced by his Bible and moral lessons, must watch narrowly the conduct of his children at play, and there he will discover to what extent his lessons have been beneficial in forming the character and the habits of those committed to his care. He who neglects this does only half his duty. These remarks will indicate the uses to which the play-ground may be turned in education; but it is almost needless to remark, that to derive the full benefit of it as a moral lever, the teacher should make it as much his duty to superintend the children at play as in school: unless he does so, the play-ground may be the means of undoing all the good that is done in school. Indeed a school is better without a play-ground, unless that play-ground be superintended. It is not necessary to make this superintendence rigorous; and the master's presence ought to be no check upon the liberty of the pupils. Let him move about quietly and calmly, stop and observe how the game proceeds, encourage the timid, put in a passing word to the boisterous, check the rude and forward, sternly rebuke the mean and selfish, and occasionally join in some of their games. If this is done in the right way, it will have the effect of strengthening, not of loosening the bonds of discipline; for pupils who see their master earnest in school, and earnest in recreation, will not be apt to despise him. And let not the teacher imagine that this will hurt his dignity. Let him remember the apostolic injunction—be all things to all men, that you may gain some. To gain one of these little ones, let him not scruple, on considerations of dignity, to entwine himself around his affections, by stooping to encourage him in what is to him of such vast importance—his play. For purposes of recreation, the play-ground should have swinging and gymnastic poles, and a covered shed, where the children may play in rainy weather. For moral purposes, it should have a border, planted with flowers and shrubs. These, in a town more particularly, are not only refreshing, but may become helps in training the child in the important habits of neatness. A good supply of fresh water is also necessary, for children at play are generally thirsty; and besides it is of use to them for the purpose of washing their hands after their games, before returning to the class-room. Outhouses or privies should also be attached to every school; where the school is a mixed one, two are necessary—one for the boys and one for the girls. Great care should be taken to have these always kept perfectly clean. This can easily be done where the pupils are under proper training, and whereever this is not the case the master is himself culpable.

EXERCISES.

1. What do you understand by the term *Apparatus?* What kind would be most beneficial in an ordinary Village School?
2. What measures can you take to maintain and secure the health of the children, and sustain that liveliness of mind which contributes so much to the efficient discharge of duty?
3. To what uses may the play-ground be turned in educating a child, other than those of mere recreation?
4. How ought a school to be furnished? What furniture would be necessary for an Infant School?

CHAPTER IV.—CLASSIFICATION.

Classification, Principle of.

25. The naturalist finds it necessary to classify the objects of his study, in order to assist his memory. A classification on loose and unscientific principles would be of little service, frequently it would retard instead of advancing his investigations. Were he to classify animals according as they had or had not horns, or according as their colour was white or black, he would err most egregiously, and find himself thwarted at every step. A classification, to be useful, must be based on real, not on apparent resemblances or differences. And so it is in classifying children. The basis of the classification should, as far as possible, depend on real, not apparent resemblances in the children to be classified. Age would furnish an apparent, but not a real basis of classification; for it is manifest that of two children who are of the same age, the one may be qualified to enter the third, while the other is qualified to enter the first class. The resemblances on which the classification should be based must refer to the mental development of the pupils. It is, however, extremely difficult in practice to

classify the children on this principle, inasmuch as we have no infallible test whereby to measure the exact capacity of each pupil. In these circumstances we must have recourse to the only means at our disposal—the capacity of the pupils as indicated by their progress in the different branches of education. By a thorough and searching examination of each pupil individually, we may approximate very nearly to the measure of his capacity, and we can classify accordingly. In conducting this examination the teacher will very soon discover that he cannot arrange his scholars in the same groups in all the branches of instruction. The various branches of a common school education call into exercise various mental faculties, and by a principle of our nature, to which reference was made in the first chapter, these various mental faculties are not developed at exactly the same age in different individuals. The teacher will accordingly find that one boy may fit into one class in one branch, but into another class in another. This is a point of some importance, to which the young teacher must carefully attend. If the same pupils could be arranged in the same groups in all the branches, the organization of the school would be comparatively a simple matter. But the teacher must, on no account, sacrifice the interest of the scholars to the organization; all school arrangements should be subservient to the pupils' good. Hence, he must recognise in his classification the important principles to which we have referred, and examine each pupil in regard to his proficiency in each branch, apart altogether from his general proficiency, and classify him as if he were studying that branch alone. In all the branches, a point to be carefully attended to is, to have neither too many nor too few classes. If the classes are too many, the teacher's power is split up into minute quantities, and not concentrated, as it ought to be, on a few given points; on the other hand, to have too few classes is a disadvantage, principally to the children, for although it allows the master to concentrate his efforts, this concentration will assuredly in the case of the more advanced or more backward pupils be thrown away. He will be firing random shots, which may, or may not, take effect. In education nothing should be left to *chance*. Both extremes are to be avoided. The practical problem to be solved in all such cases is—given a certain stage of advancement as the maximum in any given class, what is the minimum that can be safely introduced, so that while the instruction is not pitched too low for the maximum, it may not be pitched too high for the minimum? It is not easy, in any given branch, to solve this problem theoretically; and the teacher must be guided by the state of his scholars.

Classification in English.

26. Bearing these few principles in mind, we proceed to indicate very briefly the mode of classifying in different branches; and first in importance are the various branches commonly included under the term *English;* embracing, among other things, reading, spelling, and grammar. In a mixed school of any number, it will be found that the children may be divided into three groups in respect of each branch. This will not hold true invariably, and a good teacher will not scruple to arrange his pupils into the number of groups which he finds most conducive to their progress, provided he has appliances enough to overtake the instruction of all these groups. Assuming, however, that the groups are three, the teacher, on taking charge of a school, will at once proceed to arrange and classify his pupils. He will select some test, say ability to read and spell in the younger classes, and, in the older, greater proficiency in reading and spelling, along with some knowledge of grammar; and having fixed on this test, he will rigidly examine his pupils in reference to it, and arrange them in the classes for which they are best qualified. After he has been some time in charge of the school, and when any new scholar comes in, the same test must be applied. The opinion of the parent on the class the child should enter must not be taken. The parent may know the general proficiency of the child, but the teacher alone knows his *relative* proficiency, and on his relative proficiency will depend the class which he enters. Let not the young teacher grudge or count misspent the time thus occupied in examination; on it, to a large extent, will depend the best interests of his pupils. In some such way as we have indicated, the teacher should proceed in classifying his pupils in English. In reading and spelling there will, we are assuming, be three groups.

The *first*, beginners and those who are reading easy sentences composed of words of one or two syllables.

The *second*, those who can read easy narratives, spell ordinary words by the ear and to dictation, express in their own words the substance of a simple story, and have been taught the outlines of Grammar and English History.

The *third*, all those more advanced than group second.

There would thus be *three* groups in reading and spelling, *two* in grammar, and *two* in History.

Classification in Arithmetic.

27. In Arithmetic the groups may also be three, but the same children who were in group second or third in English, would not necessarily be placed in the same group in arithmetic; as the classification must be made according to the pupil's proficiency in this branch; and here it will not be so difficult as in English, for in arithmetic the different stages are marked by well-defined boundary lines, which so far necessitate a corresponding classification of the pupils. The groups might embrace:—

1. The simple and compound rules, including addition, subtraction, multiplication, and division.
2. Vulgar fractions, practice, proportion, interest, &c.
3. Decimals and the higher rules.

These groups will require to be subdivided, but one person could easily teach the subdivisions of any one group.

Classification in Geography.

28. It will be sufficient, in most elementary schools, to divide the scholars into two groups for Geography; one for beginners, and one for those who, having acquired some knowledge of topography, are prepared to enter into the subject somewhat more minutely; on occasions, for the acquisition of mere details, these groups might be split into four or six, and at times might be thrown into one, for a revisal lesson, or for a general lesson on principles.

Classification of Standards.

29. Since the fore-going paragraphs were originally written, very important modifications have been made in all Schools by the introduction into the English and Scotch Codes of Standards of Examination. In large Schools these will necessarily form the basis of Classification. We subjoin the Standards presented by the Scotch Code of 1874, merely premising that children under seven years of age are not subjected to individual Examination.

STANDARDS OF EXAMINATION.

28	Standard I.	Standard II.	Standard III.	Standard IV.	Standard V.	Standard VI.
Reading.	Easy book (approved by the Inspector), not confined to words of one syllable.	Reading, *with comprehension,* easy narrative, the book to be brought by the Inspector. *The scholar to point out nouns in the passage read.*	Improved reading of plain narrative, the book to be brought by the Inspector. *The scholar to show comprehension of the meaning of the sentences read, and to point out the nouns, adjectives, and verbs.*	Reading intelligently a passage from some history book in use in the school, with parts of speech and explanation of sentences.	Reading with expression a short passage of prose or of poetry from class book approved by the Inspector, with explanplanation, grammar, and elementary analysis of simple sentences.	Reading, with improved expression, explanation, and grammatical analysis of passages selected by the Inspector.
Writing.	A line from the same book, copied in large or half-text, on slates or in copy-books.	(*a*) A short sentence from the same book, dictated slowly word by word. (*b*) Writing large or half-text; copy-books to be submitted.	(*a*) Five lines from the same book, dictated slowly by a few words at a time. (*b*) Fair small-hand with capital letters, and figures, to be shown in copy-books.	(*a*) Ten lines dictated slowly from the same book. (*b*) Improved small-hand, to be shown in copy-books.	Writing from memory the substance of a short story or narrative read out twice by the Inspector; spelling, grammar, and hand-writing to be considered.	A short letter on a subject to be prescribed by the Inspector; the form of composition, spelling, grammar, and hand-writing to be considered.
Arithmetic.	Notation and numeration up to 1000. Simple Addition and Subtraction of numbers of not more than three figures.	Notation and numeration up to 10,000. The Multiplication Table to 5 times 12. Simple Addition and Subtraction of sums of ten figures.	Notation and numeration up to 1,000,000. Four simple rules. Money and Time Tables.	Compound rules (money and common weights and measures). Aliquot parts of a pound sterling.	Practice, Bills of Parcels, and Simple Proportion.	Compound Proportion, Vulgar and Decimal Fractions.
History and Geography.				*Outlines of the History of Scotland, from Robert the Bruce to the Union of the Crowns. General outline of the Geography of Scotland.*	*More detailed knowledge of the History of Scotland, from Robert the Bruce to the Union of the Kingdom, (1707) with special knowledge of any historical events connected with the district in which the School is situated. Geography of Scotland, with special knowledge of the county in which the school is situated and map-drawing of it.*	*Outlines of the History of Great Britain from the Union of the Crowns to the death of George III. Geography of Great Britain. Continental divisions of the world, and outline of map.*

N.B.—As to the words printed in Italics, *see* Article 19. C. 3.

According to the requirements above set forth, the school would naturally be divided into *seven* classes, one of infants, and one for each Standard. This classification can be, as we have said, easily adopted in large schools, and must also, to a greater or less extent, be followed in all schools; for the work required under each Standard is such, that the teacher will find it difficult to have the pupils of any given Standard arranged in different classes. This, indeed, is not to be recommended, for each Standard furnishes abundant work for a school year. The progress of each pupil in the school can be determined by his advance from one Standard to another. No other register of progress is required. In next chapter we shall give instructions regarding the registers necessary for recording the passage of the pupils from one Standard to another.

CHAPTER V.—REGISTRATION.

Advantages of Registration.

30. It is much to be regretted that we have no uniform system of registration in our schools. It is more to be regretted that in many schools we have no registration at all. The advantages of a thorough system of registration to the teacher himself are great, to the public at large still greater; without it the teacher works very much in the dark. He cannot tell how long any particular pupil has been in school, or if he can guess pretty accurately the number of years that have elapsed since the child first entered his classes, he is unable to say how much of that period has actually been spent in school. It is of the utmost importance to the teacher, when he would form a correct estimate of the child's progress, to know how long the child has been under his care. This he cannot do without registration. A correct system of registration, giving the date of the child's admission into school, his true position when he entered, the date of his advancement to each class, and the actual length of time he has attended, would furnish the teacher with a chart, by which he could read off, with

very considerable accuracy, the progress and mental development of his pupils. Still further, by comparing the results thus furnished in the case of different pupils, he would find that all did not progress uniformly, that some were advanced from one class to another more rapidly in one branch, but not so rapidly in another. The really earnest teacher will not stop at this discovery—he will sedulously endeavour to discover the causes of these differences. He will ask himself, are they to be found in myself, or in the mental constitution of my pupils? If in himself, he will endeavour to ascertain what in him has retarded the progress of any particular pupil. Is the child timid, sensitive, and shrinking? Perhaps the teacher has overlooked this, and instead of dealing with him as he required, he may have confused him by his seemingly harsh manner. If the cause exists in any difference in the mental organization of the pupil, he will seek to discover this cause, and will accommodate his teaching to the case of all. And further, registration will supply him with much useful information as to the times, seasons, and localities where disease is most apt to appear. The register of daily attendance will rise and fall like a barometer, according, among other causes, to the health of the children. Is the number of absentees greater at one time than at another? There must be a reason for this. There may be some epidemic raging. Hence the teacher will at once set about taking precautionary measures against its being allowed to spread among his pupils; and, at the same time, he will endeavour so to arrange matters in school as to secure, as far as human means can, the maximum degree of health among the children. Again, it will soon appear whether the absentees are more numerous from one locality than another, and if so, there will be a reason for it, and thus school registers might furnish most valuable assistance to Boards of Health, and such-like bodies. We need scarcely add that correct registration is of vast consequence to the teacher, inasmuch as it acts as a powerful check in preventing inexcusable absence; it is also a protection to the teacher against the complaints of parents, who frequently blame him for the slow progress of their children, without taking into account the extent to which his efforts have been thwarted by irregular attendance.

Advantages of Registration Nationally.

31. But if registration be thus of importance to the teacher and locality, still more is it of importance nationally. A national system of school registration, which could be depended on, would do more to settle the much vexed question of national education than all the eloquent speeches that have been delivered for the last dozen years. How stands the matter? One party declares that we are not educating one half of the children who ought to be receiving education. Another maintains that we are educating not only the half but fully two-thirds more. Both parties appeal to statistics. But before we can place any dependence on these statistics we must know how they have been obtained. Too often the following is a true picture of the method by which these statistics have been arrived at. One thousand schools are called upon to give in returns of attendance. Only six hundred—and these the most numerously attended, actually give in returns. We shall assume, and it is a great assumption, that even these six hundred have made up the returns from carefully kept registers, and have not made guess-work of it. What is to be done with those schools—four hundred in number, from which no returns have been obtained? Simply this, take the average attendance of the six hundred schools from which returns were obtained, assume *that* as the average attendance of the four hundred, and the thing is done. It is preposterous to parade returns, obtained in this way, as correct; but to build conclusions on them, and to lay to our souls the flattering unction that we are a highly educated people, is more than preposterous—it is suicidal. We have put the matter in this way, and it is no imaginary thing, in order to show the mighty benefits which would accrue from a uniform, correct, and national system of school registration. Were every school in Britain able, at this hour, to state accurately the number of children in attendance, we could, by a comparison of this number with the returns furnished by the census, corrected as these could be by the returns of the Registrars of births and deaths, tell at once how far

our education was universal, or what yet remained to be done. We could even go further—we could lay our finger on the very spots where the means of education were defective. We could also, from a knowledge of the average length of school attendance in various districts of country, trace the causes which tend to shorten the period of school attendance, and thus the Legislature would be in a far better position for considering the remedies to be applied than at present they can be. We might urge the importance of this subject by various other considerations, but enough, it is hoped, has been said to show that it is a thing of no small moment. Before proceeding to describe the Registers that ought to be used, we insert the following important Circular on this subject from the Education Department, London.

Circular on Registration. 32. Sir,—Their Lordships' Grants under the New Code depend so materially upon the accuracy of the Returns made by the Managers of Schools, that it is absolutely necessary to require the Registers of every School to be so kept that the attendance and progress of individual Scholars may be tested with ease and certainty.

The Code requires that before any Grant is made to a School the Education Department must be satisfied that Registers of Admission and Daily Attendance are accurately kept, and may be accepted as trustworthy (Article 17*h*).

Again, under Article 32*b*, the Grant may be reduced by not less than one-tenth, nor more than five-tenths upon the Inspector's Report for faults of Registration.

In every School there should be—

1. A register of admission, progress, and withdrawal.
2. Registers of daily attendance for all Scholars.
3. A book of summaries.

These Registers must (Article 34) be provided by the Managers out of the funds of the School, so as to be the property of the School, and not in any sense of the Teacher.

ADMISSION REGISTER.

The Admission Register should be kept exclusively by the Head Teacher, and made up at least once a week. Successive numbers should be allotted to the children on their admission, so that each child may have its own number, which it should retain throughout its school career. A child who returns to school after an absence of any duration would resume its original admission number.

This Register should show distinctly for each child in the School:—

(*a*) Its Number on the Register.

(*b*) The date of its admission or re-admission, day, month, and year.

(*c*) Name in *full*, christian and surname.

(*d*) The name and address of its parent or guardian.

(*e*) Whether exemption from religious instruction is claimed.

*(*f*) The exact date of the child's birth, day, month, and year.

*(*g*) The last School (if any) which it attended before entering this School.

*(*h*) The highest Standard in which it was there presented.

(*i*) The successive Standards in which presented in *this* School.

(*k*) The date of leaving.

Where several children of the same name attend, they may be distinguished thus :—"John Jones (*a*)," "John Jones (*b*)," &c.

This Register should have an Alphabetical Index.

ATTENDANCE REGISTERS.

The Registers must *be marked every time that the School meets*, however small the attendance may be. They should show the daily and weekly attendances of every scholar, beginning with the first day of the school year (Article 13) and continuing to the end of the same.

Adequate time for marking these Registers should be provided for in the Time-Tables,—from five to ten minutes or more, according to number of Scholars.

In mixed schools, the boys should be entered in the upper part of a page, the girls in the lower, leaving a space between them.

On the outside of the cover of each Register, should be legibly written the name of the school, and the year, also the department (boys, girls, mixed, or infant, as the case may be) and the class or classes to which it belongs.

There should be columns for each child's admission number, for its name in full, and its age last birth-day, and columns for all the weeks in the year, which should always be dated at their head with the day and the month. A column for school pence received in each week is not unfrequently added to the attendance columns ; but as this is apt to cause confusion in the additions, both of the pence and attendances, the pence columns had better be kept separate, unless entries be made in them in red ink. There should be a column for the entry at the close of each week of the total attendances made by each child during that week, and at the end of the Register columns to sum up the total attendances of each child during the year. Another column is required in schools attended by half-timers, who should be distinguished by the insertion of "H" (half-timer under any Act) or "R" (rural half-timer, &c.) after their names. The Register for each class may be marked by the Pupil Teacher (if he have completed his second year) having charge of the class, but the Head Teacher must always be responsible for its being regularly and properly kept.

In marking the attendance Registers, the following rules should be observed :—

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* Special care must be taken to obtain exact information on these points from the Parents, Former Teachers, and Registrar of Births, if necessary.

1. The Registers must be marked and finally closed at least two hours before the termination of the time given to the secular instruction at each meeting of the School, and at the time specified on the approved Time-table.

2. After the Registers are closed no child may be marked.

3. Every child must be marked at each meeting of the school,

4. in ink, never in pencil inked over afterwards.

5. Presence must be marked with a long stroke, thus /, or \.

6. Absence must be marked with an "a" or "s" (sick) or "w" (weather) or "h" (home circumstances) or otherwise, as the case may be.

7. There must be no dots.

8. No erasures: if any error has been made it must be corrected by a foot-note.

9. No blanks.

10. If a child leaves before the two hours of secular instruction expire, its mark for presence should be cancelled by another stroke across it thus X.

11. Registers must be original, and not copied from slates, papers, &c., on pretence of keeping them clean or any other plea.

12. The number of attendances made by the class should be entered at the foot of the column every morning and afternoon at the time for closing the Registers.

13. The number of attendances made by each child during the week must be entered.

14. When a half or whole holiday occurs, or (*in England and Wales*) on the occasion of days set apart for special inspection, under Section 76 of the Education Act (when the meetings and attendances are not to be registered for the purpose of Annual Grants) a line should be drawn down the whole length of the column or columns.

15. For longer periods, "Holiday" should be written across the columns.

At the foot of the attendance columns for each week, or in some place specially provided for them in the Registers, should be entered:—

(*a*) The number of times the School was open, morning and afternoon.

(*b*) The total number of attendances made by all the children on this Register during the week.

At the foot of each pence column, the total amount of pence received during the week.

SUMMARY.

The weekly entries of the attendance of each class should be transferred from the Class Registers every week into appropriate pages in the Summary, and the average attendance for each week recorded.

2. At the completion of the year, the Annual averages for the whole School should be struck and entered of boys and girls separately—(1) under three, (2) between 3 and 7, (3) above 7, and (4) above 3, and the highest weekly average noted.

3. The summary should be clear, and should at once shew the results asked for in the Managers' Return, Form IX.

In this book, copies of the last Examination Schedule, and of the Returns in Form IX., should be preserved, together with a list of Scholars qualified to be presented, but not presented, and the reasons for their not being presented.

These Registers should be checked at uncertain intervals, and at least once in every quarter, by the Managers, and at the time of checking them an entry should be made in the Log-Book. They should also be signed at the same time by the Teachers responsible for them.

Attendance Registers, when filled, should be put away and preserved for at least one year. Admission Registers and Summaries should never be destroyed.

The above Rules are intended for Day Schools, but should be applied as far as possible to Evening Schools.

My Lords do not at present insist upon uniform Registers as a condition of Annual Grants, but they trust that, by the co-operation of the Managers of Schools, such an extent of uniformity may be gradually introduced as to make the adoption hereafter of a uniform system of Registers a matter of little difficulty. I have the honour to be, Sir, your obedient servant,

A. T. CORY, *Assistant Secretary.*

This Circular is so exhaustive that little remains but to exhibit specimens of Registers that may meet the requirements so clearly set forth by Mr. Cory. The chief Registers required, it will be seen, are those of "Admission and Withdrawal," the "Register of Attendance," or "Class Register" for recording the daily attendance of each pupil, and the "Summary Register" for containing the results of the Class Register. If these are carefully and regularly kept by the teacher, as they ought to be, they will enable him to fill in, without any trouble, all the statistics required by the Education Department. We will now consider these Registers in their order.

Register of Admission, Progress, and Withdrawal.

33. The Register of Admission, Progress, and Withdrawal may be of the following form :— *

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*Admission Registers have been issued by many Publishers. The teacher can be at no loss in obtaining copies through his local bookseller.

REGISTER OF ADMISSION, PROGRESS, AND WITHDRAWAL.

Index No.	Date of Admission.			Name in full.	Name of Parent or Guardian.	Address of Parent or Guardian.	Whether exempt from Religious Instruction.	Date of Birth.			Last School attended.	Highest Standard in which there presented.	Date of Examination in Standards.						Date of Leaving.		
	Day.	Month.	Year.					Day.	Month.	Year.			I	II	III	IV	V	VI	Day.	Month.	Year.
1	22	4	73	John Smith.	Thomas Smith	21 Rose Street.	No.	1	4	65	St. Thomas Parish.	I	72	73	74	75	76	77	8	10	77

The mode of keeping this Register is extremely simple, and requires merely care and thorough accuracy. When a child enters school, the teacher enters the requisite particulars in their respective columns; in the first column is entered the Number, (and the numbering proceeds in order from 1 onwards) then the date of admission (day, month, and year), next the name, the name of parent or guardian, the address of parent or guardian, whether exemption is claimed from religious instruction, the exact date of birth (day, month, year), the last school, if any, which the child attended, and the highest standard in which it was there examined. The date of examination in the several standards will be entered immediately after the Inspector's annual visit, whilst the date of withdrawal will be entered when the child leaves the school.

The names are entered in this Register in the order in which the children enter school, without any alphabetical arrangement. In order, however, to facilitate reference to any particular child, the Register must have prefixed to it an alphabetical index, in which the teacher arranges the names in the Register alphabetically, according to their surnames, and inserts them, putting after each name its number in the Register. Then when he wishes to know regarding any child the particulars contained in the "Register of Admission, Progress, and Withdrawal," he first finds the name in the index, and the number after the name gives the child's number in the Register. A few pages to each letter of the alphabet will be amply sufficient for the index, the greatest number of pages being devoted to the letters with which surnames most commonly begin. As it is of importance to know when a child's name should be entered as withdrawn from the school, the following extract from a letter of the Secretary of the Committee of Council furnishes a sufficiently precise rule:—"If any child has been absent during the whole of the week, inquiry should be made of the parents, and, if an intention appears of discontinuing the child's attendance, the name should be removed. It appears to my Lords to be impossible to define generally what would be the proof of such an intention. In each instance it would probably be apparent enough—whether the parents considered the schooling practically over, or meant to go on with it, and the name should be retained or cancelled accordingly. My Lords do not think that any name should be borne on the register more than a fortnight, *without inquiry* as to the cause of absence, nor more than two months (under any circumstances whatever) *without actual attendance.* After such an interval, or after a formal withdrawal, a child should be entered afresh if he returns to school."—*Minutes of Council*, 1856-7, page 41.

Register of Attendance.

34. Next in order is the "Class Register," or "Register of Daily Attendance," which may be of the following form:—

DAILY ATTENDANCE REGISTER.

Year 1873. Quarter commencing 6th May. Ending 6th August.

No.	Age posted up.	Attendances posted up.	Name.	Admission.		Standard last Examined in.	Date of last Examination.	Week ending 13th May.					Weekly sum of attendances.	Week ending 20th May.					Weekly sum of attendances.	Sum of attendances for quarter.
				Year.	Month.			M	T	W	T	F		M	T	W	T	F		
48	*9.3*		John Brown.	*·68*	*4*	I.	*·72*	*1*	*1*	*1*	*1*	*1*	*5*	*1*	*1*	*s*	*s*	*s*	*2*	
								1	*1*	*1*	*1*	*1*	*5*	*1*	*1*	*s*	*s*	*s*	*2*	
99	*8.7*		James Calder.	*·71*	*6*	IV.	*·72*	*s*	*s*	*1*	*1*	*1*	*3*	*1*	*1*	*1*	*1*	*1*	*5*	
								s	*s*	*1*	*1*	*1*	*3*	*h*	*h*	*h*	*h*	*h*	*0*	
202	*12.4*		William Ferguson.	*·69*	*5*	V.	*·72*	*1*	*1*	*h*	*h*	*1*	*3*	*1*	*1*	*1*	*1*	*1*	*5*	
								1	*1*	*h*	*1*	*1*	*4*	*1*	*1*	*1*	*1*	*1*	*5*	
4	*13.1*		John Thomson.	*·70*	*1*	III.	*·72*	*1*	*1*	*1*	*w*	*1*	*4*	*1*	*1*	*w*	*1*	*w*	*3*	
								1	*w*	*1*	*1*	*1*	*4*	*1*	*1*	*1*	*1*	*w*	*4*	
36	*8.6*		Alexander Galt.	*·68*	*2*	VI.	*·72*	*1*	*1*	*1*	*1*	*1*	*5*	*1*	*1*	*1*	*1*	*1*	*5*	
								1	*1*	*1*	*1*	*1*	*5*	*1*	*1*	*1*	*1*	*1*	*5*	
141	*7.4*		Simon Fraser.	*·73*	*6*	II.	*·71*	*1*	*1*	*1*	*1*	*1*	*5*	*1*	*s*	*1*	*1*	*1*	*4*	
								1	*1*	*1*	*1*	*1*	*5*	*1*	*1*	*1*	*s*	*s*	*3*	
87	*8.9*		John Oliver.	*·72*	*4*	V.	*·72*	*h*	*h*	*h*	*h*	*h*	*0*	*1*	*1*	*1*	*1*	*1*	*5*	
								1	*1*	*1*	*1*	*1*	*5*	*1*	*1*	*1*	*1*	*1*	*5*	
23	*12.2*		James Whittaker.	*·64*	*8*	IV.	*·73*	*1*	*1*	*1*	*1*	*1*	*5*	*s*	*s*	*s*	*s*	*s*	*0*	
								1	*1*	*1*	*1*	*1*	*5*	*s*	*s*	*s*	*s*	*s*	*0*	
44	*8.8*		Thomas Reid.	*·69*	*12*	VI.	*·72*	*1*	*1*	*w*	*1*	*1*	*4*	*1*	*1*	*1*	*1*	*1*	*5*	
								1	*1*	*w*	*1*	*1*	*4*	*1*	*1*	*1*	*1*	*1*	*5*	
							Daily Attendances.	*15*	*14*	*13*	*15*	*17*	*74*	*15*	*14*	*12*	*12*	*10*	*63*	

A Register of the form given on the previous page may be ruled so as to embrace a complete quarter, which will render it unnecessary to transfer the names from one page to another oftener than once a quarter, and thus save the teacher a considerable amount of trouble. The mode of keeping it is simple, and may be briefly described as follows: enter on the left hand side all the names which appear in the Admission Register as actually in attendance. In the first column enter the number which appears against the child's name in the Admission Register. The number thus becomes the link of connection between the Admission and the Attendance Registers. In the second column enter each child's age, and post up the ages every quarter. In the third column enter the total attendances made in previous quarters of the year. The other headings require little explanation. The Circular already referred to gives all the information that is requisite. The columns headed "Admission," "Standard last examined in," and "Date of last examination," are important, in as much as they will enable the teacher to fill up the "Examination Schedule," of which we shall speak immediately, with accuracy and dispatch. The last column enables the teacher to post up the attendance from quarter to quarter, so that when the examination comes round, he finds it an easy matter to calculate the total attendances of each child, and to enter them in the Examination Schedule. The specimen we have given will show how the various columns are to be filled up, and the characters employed.

Summary of Attendance.

35. For facility of reference, a summary of the results obtained from the Register just described, is desirable. This Summary should contain, 1st, the results of each quarter, and 2nd, the results of the whole year. The quarterly Summary may be of the form given on the opposite page. It may be constructed so as to have the "Yearly Summary" in the same book, or separate books may be used for each. This is a matter which each teacher can arrange for himself.

QUARTERLY SUMMARY.—First Quarter.

Week ending.	No. of times School has been opened. M.	A.	Total Number of Attendances.	Average Weekly Attendances.
1 13th May.	5	5	74	7.4
2 20th May.	5	5	63	6.3
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
Totals.				

The Quarterly Summary is made up from the "Attendance Register." The first column is identical with the corresponding entry in the "Attendance Register." The second column is required to obtain the average attendances. The third column is the sum of the weekly attendances in the "Attendance Register." The fourth column is obtained by dividing the total attendances for each week by the number of times the school has been opened during that week. Each day counts two attendances,—one for the forenoon, the other for the afternoon. In an ordinary school week of five days, the school will have been open 10 times. Should there happen to be a half-holiday in any week the school will have been open 9 times, and so on. To conclude the Registration, we now simply require a "Yearly Summary," which may be of the following form:—

YEARLY SUMMARY.

	No. of times School has been opened. M.	A.	Total Number of Attendances.	Average Attendances.
1st Quarter.				
2nd Quarter.				
3rd Quarter.				
4th Quarter.				
Totals.				

The three columns in this Summary are obtained at a glance from the "Totals" in the Quarterly Summary. The only remark requiring to be made is, that the average attendance for the year may be obtained from the sum of the average attendances for each quarter divided by 4, but greater accuracy will be secured by dividing the total number of attendances of all the scholars for the year by the number of times the school has been opened during the year. In the former case, we obtain not exactly an average, but an average of an average; in the latter case, we obtain an exact and true average.

Government Returns.

36. A system of books, such as we have described, will enable the teacher to make all the returns required by the Education Department with the utmost care and exactness, and when it is remembered that money payments depend largely upon the accuracy of these returns, no teacher will grudge a little labour in having his Registers kept with the strictest exactness. In order to show how these Registers may be made serviceable, we insert a Table, showing the Returns which all schools, in receipt of annual grants, have to make to the Education Department year by year.

Number of Children on the Books, aged		Boys.	Girls.	Totals.
Under Four.....				
Between Four and Five..............				
Between Five and Six..............				
Between Six and Seven.............				
Between Seven and Eight...........				
Between Eight and Nine............				
Between Nine and Ten............				
Between Ten and Eleven............				
Between Eleven and Twelve..........				
Between Twelve and Thirteen........				
Between Thirteen and Fourteen......				
Over Fourteen......................				
	Total.....			
Who have been in School	Less than One Year...			
	One Year............			
	Two Years..........			
	Three Years..........			
	Four Years..........			
	Five Years and over..			
Admitted in last Twelve Months......				
Left in last Twelve Months..........				
Highest Weekly Average in past Year.				
Lowest Weekly Average in past year..				
Average attendance for past Year......				
Present ordinary attendance.........				

By "Children on the Books" is meant the number in actual attendance at the time when the return is called for. This number must necessarily correspond with the number in the Class Register. Accordingly, to fill up that part of the return which refers to the age of the children, the teacher has simply to consult the age column in his Class Register. To ascertain the number who have been in school any given number of years, the teacher has to consult the "Admission Column" in the Class Register; or he may obtain this information from the Admission Register; thus, to find the number who have been in school "less than one year," he takes the column headed "Date of Admission," and counts backwards one year from the date at which the return is called for, taking care to deduct those who are marked in the "Date of leaving" column, as these are not "on the books." The "number admitted in the last twelve months" is easily found from the Admission column of the Admission Register. The teacher should draw a red line under the name last entered in this column at the close of any given school year. It is evident that all, whose names appear in the Admission column of the Admission Register after that time, have been admitted in the last twelve months. The "number left in last twelve months" will always be equal to the number on the books at the commencement of the twelve months *plus* those admitted during the twelve months, *minus* the number on the books at the time of making the return. The "highest" and the "lowest" weekly averages are obtained at a glance from an examination of the "Quarterly Summary." The "Average Attendance for the year" is obtained by dividing the sum of all the attendances, made by every child during the year, by the number of times the school has been opened during the year. The sum of the attendances can be obtained from the "Yearly Summary."

Examination Schedule.

37. On the following page we insert a specimen of the "Examination Schedule," and the teacher will see that all the items of information required in this Schedule can be obtained from the Class Register.

No.	Name.	Age on last Birth-day.	Date of Admission to this School.		Number of Attendances in the year	In what Class of School. First means highest.	Under what Standard last Examined, Enter I, II, III, &c., as case requires.	Under what Standard now to be Examined, Enter I, II, III, &c., as the case requires.
			Year.	Month.				
1	A. B.	7.4	73	10	255	VI	O	I
2	C. D.	7.1	73	8	284	VI	O	I
3	E. F.	8.2	72	6	293	V	I	II
4	G. H.	8.4	72	5	251	V	I	II
5	I. K.	9.2	71	4	258	IV	II	III

EXERCISES.

1. Explain the principle on which you would classify your pupils.
2. Describe the Register of Progress, and state its use.

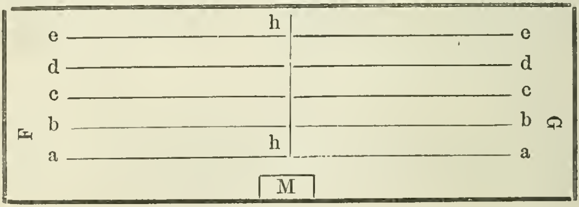
CHAPTER VI.—ORGANIZATION.

Organization.

38. In strict propriety of language, organization includes both registration and classification. We have preferred, however, to consider these subjects apart, and we now proceed to indicate in what way the pupils may be arranged, so that each branch of instruction may receive its due and legitimate share of attention. Before doing so, however, we must make one or two remarks on the arrangement of the school desks.

Arrangement of desks, &c.

39. We have already spoken of the schoolroom, and have mentioned some of the more essential articles of school furniture. It only remains that we now describe briefly the arrangement of desks most suitable to the efficient management of a school. In the annexed figure the desks are represented as running along the length of the room, and parallel to each other, each one rising somewhat above that in front of it; (a a) is the lowest, and (e e) is the highest. The desk consists of a



sloping leaf, sufficient in breadth to enable the pupils to write conveniently; and along the top of each runs a narrow ledge, in which the ink-bottles are fixed, so as to prevent them from spilling. The seats must vary in height according to the age of the children, but in a mixed school of the size we have assumed throughout, it will be advisable to have the seat attached to the first desk a. a., low enough to suit the youngest class. The seat attached to the second desk b. b., will be somewhat higher, and so on. It is always desirable to have the younger children in front, as they require most attention, and this they are more apt to receive if sitting in front than if sitting behind. Under the leaf of each desk, there should run a board for the purpose of holding the children's books. This will greatly tend to prevent confusion and disorder. Each child will have his own seat, and a place for his books, and there will be none of that running to all corners of the school in search of some stray volume, which is so frequently seen in schools where no provision is made of the kind we are speaking of. If possible, the desks should be so far apart that the teacher may pass freely behind the pupils when seated, to examine their writing, drawing, or any work of that description. The pupils enter their seats at both ends. F and G are raised steps, up which the children ascend in taking their places. A passage at one end might suffice, but as it is desirable to march the children to and from their seats, this is more easily and conveniently done by having a passage at each end. The master's desk is placed in front of these raised benches, and in such a position as to command a view of all the scholars when seated. It is marked M in the figure. It would be desirable to have a curtain, h. h., running across the centre of the desks, suspended from the roof, which could be lifted up or let down at pleasure. The curtain would serve to separate the classes, and would render the work of teaching all the more easy and pleasant. In the open space in front of the raised desks, there should be a few moveable seats, which, as occasion required, could be arranged in front of the master's desk, where any particular class might receive a special lesson, while the rest of the scholars were engaged at the raised desks. It would also be of the utmost importance to have a class-room separate from, and independent of the school-room. In a mixed school it is difficult, when all the classes are working in one room, to isolate any particular class for a special lesson. This, however, could be easily done by means of a class-room. In it the master could devote certain portions of his time to each class alone, where he would be free from the noise almost inseparable from a mixed school. The class-room would simply require to be fitted up with a gallery, in size proportioned to the size of the class-room.

Distribution of Work.

40. Assuming that the school is arranged in the manner described in last paragraph, the school work may conveniently be distributed in the following way. The raised benches will be found best adapted for what may be termed silent work, such as writing, drawing, slate arithmetic, &c. The area in front of the raised benches may be appropriated to class work, such as the mechanical parts of reading, spelling, grammar, geography, and trial exercises in arithmetic; while the class-room is specially devoted to work requiring an elucidation of principles, such as an explanation of the rules of arithmetic, of the principles of grammar, &c. The class-room should also be used by the master in giving any general lesson to any one group of the scholars on points of science, on geography, in the higher attributes of reading, and, in general, on any subject that may be taught on the simultaneous method. This distribution of school work will have the advantage of securing the minimum amount of noise, a point of no small advantage; for the pupils engaged at class work in the area will not materially interfere with those occupied in silent work at the raised benches, while those in the class-room are entirely isolated from every disturbing influence. In schools to which no class-room is attached, the teacher should endeavour so to apportion his work that as much space as possible may intervene between any two groups engaged at the same time on subjects which require much speaking on the part of the master and pupils; even in this case, an approximation to isolation may be obtained by means of screens. In all circumstances, it is desirable to have one group at silent work while the others are engaged in more active employments.

Employment of Pupil Teachers.

41. Pupil Teachers have been introduced to so many schools, that it becomes an important question to determine their proper sphere of duty in the school, and to assign to them their true work. In many schools the pupil teachers are entrusted, to a large extent, with the entire charge of the younger classes; while the master devotes his time and energies to the more advanced pupils. Such a course cannot be too strongly reprobated, and all the more is it to be condemned, inasmuch as it brings into disrepute a most useful and meritorious class of persons. The master, no doubt, finds it easier and much more pleasant work to teach those who have made some progress, than to give himself to what some are too apt to call the drudgery of teaching mere beginners. But in so doing he is standing in his own light, for it is evident that if the children have not been well taught at first, it will be all the more difficult to teach them afterwards. But, in the very nature of the case, they cannot be well taught if they are left entirely to the care of the Pupil Teachers. These young persons are themselves learners; and how much soever they may possess the aptness to teach, so essential to the true teacher, it cannot be expected that, at their time of life, they are qualified to guide the opening mind, and to direct it in its gradual development. Accordingly, the master who is truly alive to the interests of his school, will see to it, that, while he is feeding the sheep, he does not allow the lambs to starve. He will make it a point of conscience to give to the youngest class, we do not say as much time as to the most advanced, but at least as much time as will enable him, day by day, to assist them in their onward progress—to guide and train them in the first stages of their arduous work. Indeed the Pupil Teachers should not be entrusted with the entire charge of any one class. They are admirably adapted to assist the master in what we may term the mechanical parts of education; they are quite qualified to give lessons in spelling, in the practice of arithmetic, in the details of geography, grammar, history, and such like things, but they ought never to be charged with any lesson which requires the elucidation of principles. All such lessons the master should retain in his own hands, and he should also endeavour to have every child in school directly under his own instruction for a longer or

shorter period every day. The explanation of the rule of addition should be given by the master, exercises to facilitate expedition and accuracy in summing up may be safely left to the Pupil Teacher; geographical ideas should be imparted to the pupils by the master, while the details of topography may be communicated by the Pupil Teacher. These remarks will serve to show what Pupil Teachers are capable of accomplishing, and with what kind of work they ought to be entrusted.

Branches to be Taught.

42. In order to determine the organization of his school, the teacher must settle not only what kind of work he himself is to perform, and what his Pupil Teachers are to do, but also the branches to be taught. These may, to a certain extent, vary with the kind of school, but yet in every elementary school there are certain great leading branches which must of necessity be attended to. After all, reading, writing, and arithmetic must form the staple of the education of our elementary schools. Other branches may be added, but these can on no account be omitted. The teacher must accordingly see to it that these have a proper amount of time allotted to them. He will remember that while other branches are useful, these are indispensable; furnishing, as they do, the key which unlocks all the treasures of knowledge. He will remember that the boy who can read, write, and count well and easily, has in his possession the means of educating himself to any extent. And, accordingly, whatever branches are excluded from the school curriculum, these must be included in it. There is more need to keep this constantly in mind, inasmuch as there is springing up in the present day the idea that the school is the proper place for acquiring a knowledge of almost all branches of education. We have not only to teach the more ordinary and elementary subjects; but such things as botany, chemistry, mineralogy, anatomy, and so on, are being introduced into school as regular and necessary parts of its curriculum. We do not speak of incidental oral lessons on all or any of these subjects; we shall have occasion, in the sequel, to show that much useful information on common things may and should be given in school, but we emphatically lift up our voice against the absurdity of attempting to teach children the classifications of a Cuvier, or the speculations of a Buck-

land. Another error is beginning to raise its head, which ought to be at once put down. Some fond enthusiasts would fain make our schools the means of imparting a special education. Is a boy to be a shoemaker? He ought, say these education reformers, to be taught specially all the properties of leather. Is he to be a tailor? He ought to be taught the kinds and qualities of cloth; while the girls should on leaving school, at the age of fourteen, be familiarly acquainted with domestic economy, and be capable of assuming the entire management of a house and family. The elementary school, in our opinion, was never intended to teach such things. Its main design is to give a general education, leaving the special education to be obtained otherwise. We would caution the young teacher against being led away by either of the errors we have mentioned. While he leaves nothing undone which may tend to expand the minds of his pupils, he ought ever to remember that his great work is to give the scholars the means of educating themselves.

Having made these general remarks on organization, we proceed now to give one or two particular examples of organization suited for different schools.

Organization of an Infant School. Boys and Girls, 5 to 7 years of age.

43. In an infant school, the organization is comparatively a simple matter. The greater number of the lessons requires to be given in the gallery, which is an indispensable requisite in schools of this description. The instruction must be, to a large extent, oral; and will consist of lessons on Scripture, objects, common things, number, music, &c. In addition to these oral lessons, there will be a certain amount of time devoted to the acquisition of reading. A special point to be attended to, in the organization of an infant school, is to maintain a due medium between work and play. The amount of time allowed for play and exercise will be much greater than in any other kind of school; and care should be taken to have the intervals so arranged that the children are, on no occasion, more than one hour continuously in school. The following distribution of time for one day is that which obtains in the Initiatory Department of the Practising Schools of the Glasgow Free Church Training College.

$9\frac{1}{2}$—10. Children assemble in playground, under the superintendence of master.
10—10.10. Arrange caps, bonnets, cloaks, &c., and take seats in gallery.
10.10—10.20. Praise and prayer.
10.20—11. Bible oral lesson.
11—11.20. Playground, under superintendence of master.
11.20—12.10. In divisions, learning to read, &c., under the charge of master, assistant, pupil teachers, and monitors.
12.10—12.25. Playground.
12.25—1. Gallery oral lesson on object, number, music, &c., according to circumstances.
1—2. Lunch, which is either brought from home in the morning, or purchased in the school.
2—2.40. Oral lesson same as from 12.25—1 in the forenoon.
2.40—3. Playground.
3—4. Divisions at reading, &c., assembling in gallery about 3.45, for closing remarks on day's proceedings, praise and prayer.

From the preceding scheme it will be observed that, out of the $6\frac{1}{2}$ hours during which the children are in school, about $2\frac{1}{2}$ hours are spent in the playground when the weather permits; about 2 hours are devoted to gallery oral lessons, and about 2 hours to class-work: of the 4 hours thus apportioned to actual school-work at least 1 hour is allowed to physical exercises of various kinds. The distribution of work is thus well adapted to the physical and mental condition of the children.

Organization of a Juvenile School. Boys, 7 to 9 years of age.

44. It is at this stage that the difficulties of organization begin. The teacher has to consider the branches to be taught, the time at his disposal, the amount of time to be given to each branch (to be determined by its relative importance), and the distribution of this time throughout the hours allotted to school-work. The third of these points demands special importance, as on its right adjustment the real efficiency of the school will depend. Given, the branches to be taught, given, also, the gross amount of time in which to teach them, how shall this time be allocated so that each branch shall receive a portion of time equal to its importance, is a problem to which every conscientious teacher earnestly sets himself. This point must be determined *before* the teacher proceeds to fix the fourth. It ought never to be forgotten that the distribution of the various branches throughout the hours at the teacher's disposal, must be regulated by

the amount of time allowed to each branch, and not the reverse. Bearing in mind these remarks, which are applicable to the whole of the following schemes, we proceed now with the organization of a juvenile school. The branches to be taught, and the time at disposal, are specified in the subjoined table. In some schools, some of these branches may not be required. In this case, the time saved should be allocated among the other branches according to their relative importance. It may happen, also, that the time at the teacher's disposal is less or more than we have assumed, in which case he will allocate the time among the different branches in the proportion indicated in the subjoined table. The allocation we give has been made with much care, and is the result of personal experience, and of suggestions by many professional brethren.

TIME AT DISPOSAL PER WEEK,

7 hours for 5 days = 35 hours.

	HOURS.
Religious Knowledge,	5
Reading and Spelling,	5
Dictation,	.40
Writing,	3.45
Arithmetic,	3.20
Grammar,	2.30
Geography,	2.30
History,	1.20
Drawing,	1.20
Music,	1
Oral Lessons,	1.30
Play,	7.5

Total, 35 hours = time at disposal.

Should the teacher have only 30 hours a week at his disposal, the allocation of it becomes a mere matter of proportion—if 35 hours a week allow 5 hours for reading, what time for reading will 30 hours allow. Should he not be required to teach drawing, he will allocate the time allowed it among the other branches according to their importance, and so with any other branch. We now proceed to distribute the time specified in the foregoing table throughout the hours of school-work. The hours assumed in the following routine may not be those actually adopted in many schools; in such cases, the teacher can easily construct a routine suited to his own individual case.

JUVENILE SCHOOL—ROUTINE FOR A WEEK. BOYS.

	9—10	10—10.45	10.45—11	11—12	12—1	1—1½	1½—2	2—2½	2½—2.40	2.40—3.20	3.20—4
M	Praise, Prayer, Bible.	Writing.	Play.	Reading.	Play.	Oral Lesson.	Grammar.	Geography.	Play.	Arithmetic.	Drawing.
T	,,	,,	,,	,,	,,	Music.	,,	,,	,,	,,	Dictation.
W	,,	,,	,,	,,	,,	Oral Lesson.	,,	,,	,,	,,	History.
T	,,	,,	,,	,,	,,	Music.	,,	,,	,,	,,	Drawing.
F	,,	,,	,,	,,	,,	Oral Lesson.	,,	,,	,,	,,	History.

In the foregoing scheme, the branches receive the exact amount of time previously fixed upon. Where the school is large, the children must be divided into groups. The routine will suit any one group, but for the youngest children a modification may be introduced. Drawing, dictation, and history may be dispensed with, and the time thus saved be devoted to reading and spelling.

Organization of a Juvenile School GIRLS, 7 to 9 years of age.

45. The organization of a girls' school will not differ materially from that of a boys'. The remarks made in last paragraph are equally applicable here. Provision requires to be made for the teaching of sewing. If the school hours are the same as in the boys' school, then some branches must be omitted, or have less time devoted to them. We assume the latter alternative, and propose the following distribution of time as a close approximation to what actually obtains in efficiently conducted girls' schools :—

TIME AT DISPOSAL,

7 hours for 5 days = 35 hours per week

	HOURS.
Religious Knowledge,	5
Reading and Spelling,	5
Dictation,	.50
Writing,	3
Arithmetic,	2.40
Grammar,	1.30
Geography,	1.30
History,	1
Drawing,	.40
Music,	.45
Oral Lessons,	1
Sewing,	5
Play,	7.5

Total,........................35 hours = time at disposal.

The reader has simply to compare this allocation with that detailed in last paragraph, and he will see the modifications which have been introduced to allow one hour daily for sewing.* The time allowed the various branches is relatively almost the same as in the boys' school. No time appears for instruction in domestic economy and household matters. The oral lessons may, with much propriety, be devoted to these subjects. The branches may be distributed throughout the week as follows :—

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* It is the opinion of many who should have ample opportunities of judging that one hour daily is not sufficient for a branch of so much importance as sewing. We beg to differ from this opinion. Sewing can be acquired more than any other branch at home. If the other branches are neglected when the child is young, the loss can never be made up; it is not so, however, with sewing; it may be acquired in after life more easily than any other branch.

JUVENILE SCHOOL—ROUTINE FOR A WEEK. GIRLS.

	9—10	10—10.45	10.45—11	11—12	12—1	1—1½	1½—2	2—2.40	2.40—2.50	2.50—3	3—4
M	Praise, Prayer, Bible.	Writing.	Play.	Reading, &c.	Play.	Grammar.	Geography.	Arithmetic.	Dictation.	Play.	Sewing.
T	,,	,,	,,	,,	,,	Oral Lesson.	History.	,,	,,	,,	,,
W	,,	,,	,,	,,	,,	Grammar.	Geography.	,,	,,	,,	,,
T	,,	,,	,,	,,	,,	Oral Lesson.	History.	,,	,,	,,	,,
F	,,	Music.	,,	,,	,,	Grammar.	Geography.	Drawing.	,,	,,	,,

Modifications similar to those mentioned in the routine of the boys' school may be introduced for the sake of the youngest children. Dictation is placed beside arithmetic, which will save the trouble of giving out slates twice. Ten minutes a day, devoted regularly to this subject, will be of vast importance. The branches are distributed so as to give sufficient variety to the different hours.

Organization of a Senior School. Boys, 10 to 13 years of age.

46. The same branches are necessary in a senior as in a juvenile school. The mechanical difficulties, however, of reading and writing are now over, and these branches will not require so much time as in a juvenile school. The time thus saved may, with much propriety, be devoted to composition, arithmetic, and dictation on paper, both on account of the intrinsic importance of these branches, considered as means of mental discipline, and on account of their immediate bearing on the future prospects of the boys. In special localities, special subjects may require to be taught. Thus, in a seaport town, it may be of advantage to have navigation taught as one of the regular branches. In an agricultural district, again, an elementary acquaintance with chemistry, in so far as it bears upon agriculture, may be deemed of importance. We have inserted no such special subjects in the following scheme, on the very ground that they are special. In preparing a routine, where provision must be made for teaching such branches, the teacher must take into account elements which nothing but a knowledge of the wants of the district can give him. The following allocation of time is proposed as fair and reasonable:

TIME AT DISPOSAL,

7 hours for 5 days = 35 hours.

	HOURS.
Religious Knowledge,........................	5
Reading and Spelling,........................	3
Dictation on Slate and Paper, ...	1.30
Writing from Copies,........................	2.15
Arithmetic, ...	5
Grammar and Composition,..................	3.20
Geography,......................................	2.30
History,..	2
Drawing,...	1.20
Music, ...	1
Oral Lessons,..................................	1
Play,..	7.5

Total,....................35 hours = time at disposal.

The branches may be distributed throughout the week as follows :—

SENIOR SCHOOL—ROUTINE FOR A WEEK. BOYS.

	9—10	10—10.45	10.45–11	11—12	12—1	1—1½	1½—2.10	2.10—2.50	2.50—3	3—4
M	Bible.	Writing.	Play.	Reading.	Play.	Geography.	Grammar.	History.	Play.	Arithmetic.
T	”	Dictation.	”	11–11½ Oral Lesson. 11½–12 Music.	”	”	Composition.	Drawing.	”	”
W	”	Writing.	”	Reading.	”	”	Grammar.	History.	”	”
T	”	Dictation.	”	11–11½ Oral Lesson 11½–12 Music.	”	”	Composition.	Drawing.	”	”
F	”	Writing.	”	Reading.	”	”	Grammar.	History.	”	”

Organization of a Senior School. Girls 10 to 13 years of age.

47. To provide for sewing, the same modifications must be introduced as in the case of the Juvenile School. The reasons for the following allocation will be sufficiently manifest from the remarks already made.

TIME AT DISPOSAL, 7 hours for 5 days=35 hours.

	HOURS.
Religious Knowledge,	5
Reading and Spelling,	2.15
Dictation on Slate and Paper,	1
Writing from Copies,	1.30
Arithmetic,	3.20
Grammar and Composition,	2.30
Geography,	2
History,	1.30
Drawing,	1.20
Music,	1
Oral Lessons	1.30
Sewing,	5
Play,	7.5

Total, 35 hours=time at disposal.

The subjects may be distributed throughout the week as follows:—

SENIOR SCHOOL—ROUTINE FOR A WEEK. GIRLS.

	9—10	10—10½	10½—10¾	10¾—11¼	11¼—12	12—1	1—1½	1½—2.10	2.10—2.50	2.50—3	3—4
M	Bible.	Writing.	Play.	Grammar.	Reading.	Play.	Oral Lesson.	Geography.	Arithmetic.	Play.	Sewing.
T	”	Dictation.	”	Composition.	History.	”	Music.	Drawing.	”	”	”
W	”	Writing.	”	Grammar.	Reading.	”	Oral Lesson.	Geography.	”	”	”
T	”	Dictation.	”	Composition.	History.	”	Music.	Drawing.	”	”	”
F	”	Writing.	”	Grammar.	Reading.	”	Oral Lesson.	Geography.	”	”	”

Organization of Village School. Boys, 6 to 13 years of age.

48. In a village school, the pupils may be divided into three groups, corresponding nearly to the divisions specified in the previous paragraphs—Initiatory, Juvenile, and Senior. We may assume the branches to be taught to be the same as in the schools already described. In allocating the time at his disposal among the various branches, the teacher must proceed on the principles which we have already laid down. He must be careful not to give each group the same amount of time in each branch. Such a course would render the organization an easy matter, but it would be an organization essentially defective. The group composed of the oldest boys will require more time for arithmetic and grammar, and less for reading, than the second group, while the greater part of the time of the youngest group must be devoted to reading and oral lessons. The following table will exhibit at a glance the portion of time to be devoted to each branch by the three groups respectively. A B and C, stand for the three groups, A being the youngest:—

TIME AT DISPOSAL, 7 hours for 5 days = 35 hours.

	A	B	C
Religious Knowledge,.....	3.45	5	5
Reading and Spelling, ...	8.20	5	3
Dictation,.....................	...	.40	1.30
Writing, ...	1.30	3.45	2.15
Arithmetic, ...	...	3.20	5
Grammar, ...	...	2.30	3.20
Geography,..................	...	2.30	2.30
History,.......................	...	1.20	2
Drawing,......................	1	1.20	1.20
Music,.........................	1	1	1
Oral Lessons,...............	4	1.30	1
Play,...........................	15.25	7.5	7.5
Total,...........	35	35	35

The reader will observe that the time given to each branch in group B is exactly the same as that given in the Juvenile School (par. 44), and that allowed to group C, the same as in the Senior School (par. 46). The time allowed group A for play seems large, but they are assumed not to attend until one hour after the others. In distributing this time throughout the hours allotted to school-work, the teacher should endeavour so to arrange matters, that, while one class is receiving instruction in subjects requiring much speaking, another is engaged in silent work. In the following routine it is assumed that there are two Pupil Teachers, a room fitted up with parallel desks having an open area in front, and a class-room with a gallery. The routine in pages 58–59 shows where each class is taught, by whom, and at what hours. An examination of the routine will sufficiently explain the principles on which it has been constructed. From the general Time Table there ought to be extracted a particular one for each group, and the Pupil Teachers should have each a copy for himself; indeed, it would be well that each pupil had a copy for his own use.

Organization of Village School. GIRLS, 6 to 13 years of age.

49. The remarks already made render it unnecessary to do more in this case than simply to allocate the time, and draw out a Time Table. Groups, three—A, B, C—A being the youngest:—

TIME AT DISPOSAL, 7 hours for 5 days = 35 hours.

	A	B	C
Religious Knowledge,.....	3.45	5	5
Reading and Spelling,....	8.20	5	3.20
Dictation,....................	...	.40	1.30
Writing,......................	1.30	3	1.30
Arithmetic,..................	...	2.40	3.20
Grammar,....................	...	1.20	2.30
Geography,..................	...	1.30	1.30
History,......................	...	1	1
Drawing,....................	1	.40	.45
Music,........................	...	.45	1
Oral Lessons,...............	3.20	1.20	1.30
Sewing,......................	...	5	5
Play,..........................	17.5	7.5	7.5
Total,.........	35	35	35

The routine at pages 60–1 will show how these hours may be allocated:—

VILLAGE SCHOOL ROUTINE

	9—9¼	9¼—10	10—10¾.	10⅝—11	11—12.
MON.	Praise and Prayer	A Not assembled. B Writing, *raised seats*, P. Ts. C Psalm, Catechism, &c *class-room*, Master, who exchanges occasionally with one of P. Ts.	A Hymn, Children's Catechism, *area*, P. T. B Psalm, Catechism, *class-room*, Master. C Writing, *raised seats*, P. T.	Play.	A Reading in divisions, *area*, P. T. and Monitors. B Reading, &c., *class-room*, Master. C Arithmetic, &c. *raised seats*, P. T. Master occasionally changing with P. Ts.
TUES.	Praise and Prayer.	A As on Monday. B As on Monday. C Bible History.	A Bible Oral Lesson, *class-room*, Master. B Bible History, *area*, P. T. C Writing, P. T.	Play.	A, B, C } As on Monday.
WED.	Praise and Prayer.	A As on Monday. B As on Monday. C Bible Oral Lesson, Emblem, or Precept.	A, B } Bible Oral Lesson, *class-room*, Master, P. Ts. listening alternately. C Dictation on Paper, *raised seats*, P. T.	Play.	A, B, C } As on Monday.
THUR.	Praise and Prayer.	A As on Monday. B As on Monday. C Bible History, most of which may be taken by P. Ts, leaving Master free to superintend writing.	A Bible Oral Lesson, *area*, P. T. B Bible History, *class-room*, Master. C Writing, P. T.	Play.	A, B, C } As on Monday.
FRID.	Praise and Prayer.	A As on Monday. B As on Monday. C Scripture Geography, &c. partly by Master and partly by P. Ts.	A, B } Scripture Geography, &c., *raised benches*, P. Ts. C Dictation, *class-room*, Master.	Play.	A, B, C } As on Monday.

FOR A WEEK. BOYS.

12–1	1–1½	1½–2-10	2-10–2-50	2-50–3	3–4
Play.	A B } Oral Lesson, *raised seats*, Master, P. Ts. listening alternately. C Geography, *class-room*, P. T.	A Reading, &c., *area*, P. T. B Arithmetic, *raised seats*, P.T. C Grammar, *class-room*, Master.	A Play. B Drawing, *raised seats*, P. Ts. C History, *class-room*, Master.	Play.	A 1st half-hour, writing on slates, *raised seats*, P. T. 2d half, Object Lesson. B 1st half-hour, Grammar. 2d, Geography, *area*, P. T. C Reading, &c., *class-room*, Master.
Play.	A B } Music, *raised seats*, Master or P. T. C Geography, *class-room*, Master or P. T.	A B C } As on Monday, Master interchanging with P. Ts.	A Play. B Dictation, *class-room*, P. T. C Drawing, *raised seats*, Master.	Play.	A As on Monday. B As on Monday. C 1st half-hour, Oral Lesson, 2nd, Music, Master in *class-room*.
Play.	A B } Oral Lesson, P. T. C Geography, Master, P. Ts. listening alternately.	A B C } As on Monday.	A Play. B C } History, Master, P. Ts. listening alternately.	Play.	A B C } As on Monday.
Play.	A B C } As Tuesday.	A B C } As on Monday.	A Play. B Drawing, *raised seats*, P.T. C History, *class-room*, Master.	Play.	A As on Monday. B As on Monday. C As on Tuesday, P. T. Master taking Grammar & Geography.
Play.	A B C } As on Wednesday, Master occasionally interchanging with P. T.	A B C } As on Monday.	A Play. B History, *class-room*, Master. C Drawing, *raised seats*, Master.	Play.	A B C } As on Monday.

VILLAGE SCHOOL ROUTINE

	9—9¼	9¼—10	10—10¾	10¾—11	11—12
MON.	Praise and Prayer.	A Not assembled. B Writing, *raised seats*, P. Ts. C Bible Catechism, &c., *class-room*, Mistress, who changes occasionally with P. T.	A Hymn, Childrens' Catechism, *area*, &c., P. Ts. B Psalm, Catechism, &c., *class-room*, Mistress. C Writing, *raised seats*, P. Ts.	Play.	A Reading in sections, *area*, P. T. and Monitors. B Reading, *class-room*, Mistress. C Sewing, *raised seats*, P. T. Mistress changing with P. T. to examine sewing, &c.
TUES.	Praise and Prayer.	A Same as Monday. B Same as Monday. C Bible History.	A Bible Oral Lesson, *class-room*, Mistress. B Bible History, *area*, P. T. C Dictation on Slate or Paper, P. Ts.	Play.	A B C } As on Monday.
WED.	Praise and Prayer.	A As on Monday. B As on Monday. C Bible Oral Lesson, Emblem, or Precept.	A B } Bible Oral Lesson, *class-room*, Mistress. C Writing, P. T.	Play.	A B C } As on Monday.
THUR.	Praise and Prayer.	A As on Monday. B As on Monday. C Bible History.	A Bible Oral Lesson, *area*, P. T. B Bible History, Mistress. C Dictation.	Play.	A B C } As on Monday.
FRI.	Praise and Prayer.	A As on Monday. B Music. C Scripture Geography, &c. partly by Mistress and P. Ts.	A B } Scripture Geography, &c., *class-room*, P. Ts. C Drawing, *raised benches*, Mistress.	Play.	A B C } As on Monday.

FOR A WEEK. GIRLS.

12—1	1—1½	1-30—2-10	2-10—2-20	2-20—3	3—4
Play.	A Drawing, &c., on Slates, *area*, P. T. B Geog. *raised seats*, P. T. C Grammar and Composition, *class-room*, Mistress, who exchanges with P. T.	A Oral Lesson in *class-room*, Mistress and P. Ts. alternately. B } Arithmetic. C } Each division being taken into the Class-room as occasion requires for explanation of principles.	Play.	A Reading in groups in *area*, P. T. B Oral Lesson, *raised seats*, P. T. C Reading, *class-room*, Mistress.	A Dismissed or Sewing. B Sewing, *raised seats*, P. T. C *class-room*, Mistress, Oral Lesson and Geography.
Play.	A As on Monday. B History. C As on Monday.	A B C } As on Monday.	Play.	A As on Monday. B Grammar. C As on Monday.	A B } As on Monday. C History and Music.
Play.	A As on Monday. B Geography. C As on Monday.	A B C } As on Monday.	Play.	A As on Monday. B Oral Lesson C As on Monday.	A B } As on Monday. C Geography and Oral Lesson.
Play.	A As on Monday. B History. C As on Monday.	A B C } As on Monday.	Play.	A As on Monday. B Grammar. C As on Monday.	A B } As on Monday. C History and Music.
Play.	A As on Monday. B Geography. C As on Monday.	A As on Monday. B Drawing. C Arithmetic.	Play.	A As on Monday. B Dictation. C As on Monday.	A B } As on Monday. C Geography and Oral Lesson.

We have allocated the sewing of groups B and C to different hours. The teacher may, however, easily take the whole sewing at once, by taking the work assigned to C from 3 to 4 between the hours of 11 and 12. Group A may be dismissed at 3, or, if deemed advisable, may be retained until 4, being engaged either in sewing or reading, or any other branch which the mistress considers desirable. The reader will see that in the distribution of time, A is supposed to assemble at 10, and to be dismissed at 3.

Tripartite System of Organization.

50. As it is our object in this chapter merely to throw out hints on the important subject of organization, we shall insert here an account of the Tripartite System of Organization as given by Professor Mosely, all whose remarks are weighty, and worthy of careful consideration:—

" To *educate* children, the action of an enlightened teacher upon them is required, with an individual application to each individual mind. There must be the separate contact of the mind of the master with the mind of the child; the separate study of it, the separate ministering to its wants, checking its waywardness, propping up, and guiding, and encouraging its first efforts, building it up, and establishing it.

" The whole time allowed out of the life of a poor child for its school days is all too short, and it is daily decreasing. Nothing can be expected to be done unless the most powerful of the resources which the schoolmaster has at his command be brought to bear upon every moment of it. If his work be not taken in hand forthwith, not only will he have lost the most favourable season for it, that when the mind is most readily imbued, but *the whole opportunity*. I claim, therefore, as a privilege of the child, and as a paramount duty of the master, that his own individual culture of the child's mind, his own direct and personal labour upon it, should begin from the moment when the child first enters the school, and never be interrupted until it leaves it; that the child should not, for instance, be tossed about, as it passes through the school, from hand to hand, from teacher to teacher, beginning at that of the lowest merit, until, if it ever reach the first or second, it comes at length under that influence of the master mind of the school which should have operated upon it throughout. It is not by a process thus broken and disjointed, a system, if such it can be called, thus interrupted, that anything great or permanent will be realised. Many elements of the character of the child, which the master would easily have read in the lowest class of the school, will be disguised from him if he first takes it up in the highest; many evils, which he might have corrected then, will now have become incorrigible; much that he might have built up by a gradual process, growing with the child's growth, and strengthening with its strength, will be impracticable to any less sustained and continuous effort.

"All this individual action on the mind of the child is perfectly consistent with an application of the sympathy of numbers, in all its power and efficiency, to the task of the educator. It is, indeed, the natural and obvious process, when he has studied the child's character of heart and mind, to bring the sympathy of numbers to bear upon its correction, to call in its aid in the process of its formation and development.

"Now, it is this function of the teacher which I am desirous to vindicate for him; and not merely to impress it upon his mind in high-sounding but useless words—words given to the winds after he has had a week's experience of his task. I wish to place him in a position in which he can, without interruption, calmly and collectedly gather up his thoughts, brace his resolves, and apply his judgment to the duty.

"For this purpose I require for him a separate room—a silent room—in which no other voice is to be heard than his own, or that of the child whom he is at any moment examining;—that he should be subjected at that time to no distraction whatever, but that his mind should be *wholly* in the matter in hand.

"I conceive that he can give oral instruction under these favourable circumstances to from 50 to 60 children at once; and that if he be allowed two hours a-day (one in the morning and one in the afternoon) to each such division of 50 or 60 children in the school, beginning from the youngest, and if he be an accomplished teacher (such as our training institutions now annually yield *many*), then I believe, that even in the short time allowed us of the children's lives for school purposes, he can do a great deal towards *educating* them; for, however unfavourable may be the estimate we are compelled to make, in the existing state of the labouring classes, of the home influences to which they are subjected, opposed to the objects of the school, it is to be borne in mind that we have them in our schools during one-half the day, and that in the sympathy of numbers we have a vast resource given us to work out our results.

"Before I go any further with the exposition of this plan, I must state that I am far from putting it forward as the best plan that could be devised, or from wishing to force it on the elementary education of the country as the type upon which the organization of every school is to be formed. Were I certain that it was the best method that could be devised, in the existing stage of our educational progress, any such measure would, I think, be the worst that could be taken.

"What we appear to want now, is the free action of thought upon education, and that public interest which is the result of such action—the collision of system with system, and method with method. This suits the character of social and political relations among us, and the regimen of public opinion. Nothing could be worse than to stretch education again upon the rack of a system, or to put it in an iron boot. I am very far, however, from believing that which I advocate to be the best system. I have compared it, of course, with all others that I know of, and give it the preference; but I am of opinion that we are yet in the infancy of our knowledge and experience in such matters, and that something a great deal better will soon be devised.

"Let me, before I proceed further, renounce all claim to having *originated* the plan of organization which I am about to detail. I found it in operation (as to its fundamental principles) in the school which was formerly the Sessional school at Edinburgh; and which—partaking in the Free Church movement—when I visited it, had, under the auspices of Mr. Oliphant, its master, left the great room in which it was first established and had for so many years been taught, and taken possession of the ground floor of a house in which were some large apartments used I believe as music-rooms.

"It was the accidental circumstance of the distribution of these rooms which appeared to me to have, in some degree, suggested to Mr. Oliphant the plan of organization which is the basis of mine, but which I develop in some respects under a new form.

" The first, then, and essential element of it, is the separate room for oral instruction, the devotion of the labours of the head-master chiefly to this object, (relieved occasionally by the second-master or pupil-teacher, with whom he exchanges duties,) and the throwing of the children in three great divisions (of 50 or 60) successively into that room, for an hour twice a-day, for the purpose of that instruction. Every other element of the plan admits of modification, but not that. If that feature of it be sacrificed, then the most important results which I contemplate from it will, in a great measure, I conceive, be lost. It is no longer the plan which I recommend, or one from which I anticipate any very decided advantage.

" Whilst in all that requires the independent exercise of judgment and discretion in the business of instruction—in all that involves the sanctions of religion, and considerations of moral responsibility, and thus needs to be presented to the mind of a child with the gravity and the authority which can only be brought to it by the mind of an adult teacher ; and in all that concerns the development of the judgment and intelligence of a child—the direct interference of the master in its education is necessary to any useful result, as well in reference to the youngest child in the school as to the oldest; I am not prepared to deny that there are certain elements in the business of a school, which, being essentially mechanical in their nature, may, under due supervision and with proper limitations, be conducted on the principle of mutual instruction. Reading, for instance, in respect to which I have found no process of simultaneous teaching effectual in the Greenwich schools, may, I conceive, as to its mechanical elements, and with a view to that individual instruction and mechanical practice which it requires, be taught by the aid of monitors—as young even as some of those to whom the whole business of instruction is intrusted in our existing schools—provided. that each reading lesson so given is checked by a subsequent examination of the master ; and that the subdivisions of children placed at any time under the instruction of a single monitor, do not exceed eight, or at the most. ten in number.

"This being premised, I will suppose the subjects of instruction in elementary schools to admit of the following division:—

"1. Those which are properly the subjects of oral instruction.

"2. Reading.

"3. Writing, slate arithmetic, drawing, committing to memory—being silent occupations.

"For these three subjects, I suppose separate localities to be assigned. 1st. A gallery and a separate room for oral instruction. 2nd. Parallel desks arranged in groups for writing, &c. 3rd. An open area or floor for the subdivisions receiving instruction in reading.

"Corresponding to these three distinct branches of instruction, I propose that the children be formed into three equal divisions, and that, when the morning devotions and the Bible lesson have terminated, each division passes to one of these localities, and receives instruction in those elements of knowledge which are proper to that locality.

"Calling the divisions, for instance, I, II, and III; division I will take its place in the gallery for oral instruction; division II at the desks for writing, &c.; and division III (in subdivisions of from 6 to 10) upon the floor of the school-room, for instruction in reading (or in the room set apart for that purpose, with a gallery, &c., if it be proposed to adopt the simultaneous method of teaching reading). Now, it will be observed that there are three hours in the morning, and, in summer, three hours in the afternoon devoted to school business. I suppose the above distribution of the school to remain during the first of these hours. At the expiration of that hour a change takes place; that division which was in the gallery receiving oral instruction passes to the desks for practice in writing, &c.; that which was at the desks, to the floor of the school-room for reading; and that which was reading, to the gallery, for examination by the head-master in that reading lesson in which the whole division has been receiving the instruction of the monitors. This arrangement continues during the second hour; a similar change takes place at the commencement of the third; and so each division passes in its turn (in the course of the morning), under the personal examination and oral instruction of the master; each is occupied during an hour in writing, slate arithmetic, &c.; and an hour is devoted by each to mechanical instruction in reading.

"If the localities appropriated to—1st, Oral instruction, 2nd, Slate Arithmetic, 3d, Reading—be represented respectively by the letters A, B, C, and the three equal divisions of the school by the symbols I, II, III, the following time-table will represent compendiously the arrangements which I have described in detail:—

Hours.	I	II	III
9 to 10	A	B	C
10 to 11	B	C	A
11 to 12	C	A	B

"It will be observed that the first or lowest division of the school (III) is occupied during the first hour in reading; that it is then placed under oral instruction, which oral instruction, conducted by the head-master, is supposed to be founded (where that is practicable) upon the reading lesson which the children have just been practising, and which always commences with an examination as to the extent to which they have acquired the power to read it mechanically. For the results of this examination, the monitors who have been employed in teaching it are supposed to be held, in some degree, responsible; the teaching of that lesson to each child in his subdivision being understood to be assigned to the monitor as his task; the due performance of which is afterwards to be inquired into in every case by the master.

"In carrying out this plan, I propose that the boys and girls should, in the morning, be taught together; I claim, however, the services both of the master and the mistress then, as well as in the afternoon. For schools whose average attendance of boys and girls does not exceed 100 this will be enough. For every additional 25 children there should be a pupil teacher; and if the number exceed 200, one of these at least should be replaced by an assistant-master.

" The station of the mistress is to be the reading-room, that of the pupil-teacher the desks where writing and slate arithmetic are taught, and that of the master the gallery where oral instruction is given.

" I propose, then, in respect to the hours of morning instruction, that the teaching of reading shall be intrusted to the mistress; that for the purpose of this instruction each of the three divisions of the school shall, during the hour when it occupies the reading-room, be formed into two sections, one being composed of as many of those children who are most backward in their reading as the mistress can herself adequately instruct in a single class, the other section being broken up into sub-sections, each composed of not more than 8 children, and each placed in charge of a monitor.

" The whole of the children of each of the great divisions is, when in the reading-room, to be occupied in reading the same lesson; and the time-table of the school to provide that, when the hour allotted to it in the reading-room is expired, it shall be transferred to the gallery for oral instruction by the head-master, such oral instruction always commencing with an examination upon the reading lesson which has preceded —first as to the ability of the children to read the lesson accurately; secondly, as to their intelligence of the subject-matter of it. If the reading lessons be properly selected, they will frequently serve as the foundation of that oral instruction of the master which is to follow this examination. In those schools to which no infant school is annexed, some of the children will probably be so young and so imperfectly instructed in reading, as to render it expedient that they should remain in the reading-room during the period assigned for instruction of the lowest division in writing, and during one of the two periods allotted every day to the oral instruction of that division. This is a modification of the plan, in respect to which the master will exercise his discretion.

" The writing, practice of arithmetic, drawing, &c., will be placed under the supervision of the pupil-teacher or assistant-master, who will nevertheless relieve the head-master, changing places with him from time to time, and taking up his task of oral instruction; but not at any other times, or in respect to any other subjects, than such as are prescribed in the school routine, and have received the sanction of the school committee. It is not, however, to be supposed that the master to whom the duty of oral instruction is assigned is constantly to be occupied in *talking*. His duties include examination and the hearing of lessons; and from time to time he will pause, and require the children to write down their recollections of the lesson he has been giving.

"In the afternoon I propose that the girls should be taught to sew, by the mistress, in the room appropriated in the morning to reading; and that the boys be formed into three divisions, as in the morning, and similarly occupied; the two divisions employed in oral instruction and writing occupying one of the remaining rooms, and the other being appropriated to reading, under the supervision of the assistant master or pupil teacher. The number of children composing each division being greatly less in the afternoon than in the morning, I anticipate that the supervision of that division which is occupied in writing, under the care of an elder child or monitor, will not interfere materially with the important task of oral instruction, with which he is more particularly charged, more especially as that task is not supposed to be incessantly plied, but alternated with periods when the children under oral instruction may be writing out exercises on their slates, or working examples in arithmetic, the principles of which branch of science I suppose to be taught as an important department of oral instruction.

"The duties of the master will be relieved by those of the assistant-master or pupil-teacher in the afternoon, as in the morning, and under the same circumstances.

"It is a characteristic feature of this arrangement, and that which I have principally in view in recommending it, that it brings each individual child, from the least to the greatest, every day, during one-third of its school-hours, under the personal instruction of the master; that it places the master under the most favourable circumstances which I can devise for conveying that instruction to him; that it compels him to take up the study of the child from the moment when it first enters the school, and that it entirely takes away from the duties of the master that voluntary and irresponsible character which they are made to assume by a system which provides for the carrying out of the entire business of instruction without his intervention ; that it emancipates the children from the monotonous control of the monitors, and from the noise of the reading-room, during two-thirds of the day ; that when the children are under monitorial instruction, it places them in groups, under the charge of each monitor, less in number by one-half than the classes usually assigned to the charge of a monitor, all day long, by the existing system ; that for the *great* business of the elementary school, *Reading*, its most tedious and difficult task, it provides, moreover, the services of an adult teacher (the mistress), who is supposed to employ the assistance of monitors only in respect to those children whom she is unable to teach herself ; that each reading lesson so given is followed by an examination as to the success with which it has been given, by the master ; that whilst the services of the mistress are rendered available in respect to that branch which, however important, does not (under the circumstances) suppose in the teacher that higher degree of attainment and general ability for the management of a school, which are so rarely found united in a mistress—it secures, nevertheless, to the girls (to whom it is at least as necessary as the boys) the highest order of instruction which the school will supply ; that in respect to existing schools, it provides for this, without dispensing with the services of the mistress, or altering the present arrangement as to her salary ; that, in respect to new schools, it enables the master to employ the services of his wife in the business of the school, under circumstances (with reference especially to that higher standard of education at which we aim) in which they would not otherwise be available ; that it economises the labours of the pupil-teacher, making, by the union of the two schools, one such teacher sufficient where two would, if the schools were separated, be necessary. Lastly, that, providing for those technical branches of instruction which are not only valuable in themselves, but necessary to secure that public opinion of the parents favourable to the school, on which its success must after all depend, it provides further for that oral instruction of a more general kind, which aims at results less tangible, indeed, but the highest contemplated in education, and the most valuable; that it extends the benefits of this form of instruction from the highest to the meanest and lowest child, and that it brings to it the master-spirit of the school, and all the sanctions with which the authority of the highest office can surround it; that in respect to his own individual part in the labour of teaching, it does not leave the master to the influence of no other motive than his own sense of duty, or that desire for excellence which it is so difficult to preserve in a remote and unobserved school, subject as it is to the antagonism of those prejudices which, lingering in the public mind, too frequently interdict all sympathy in his labours; but that it contemplates a system of instruction in which his labours shall constitute an integral part, and prescribes the subjects which he shall teach himself, and the times when he shall teach them."*

EXERCISES.

1. Draw a plan of such a school-room as you would prefer, and of the arrangement of the desks and other furniture within it, and give your reasons for each particular.
2. What objects should be kept specially in view in the organization of a school, and what are the advantages resulting from a good organization?
3. What part should the master take in the instruction of an elementary school, and what should he assign to his pupil-teachers?
4. What subjects of instruction are necessary in every elementary school, how far may the subjects of instruction be modified by the situation of the school in an agricultural, a mining, or manufacturing district?
5. Draw up a time-table for a school of 120 children, supposing yourself to have three pupil-teachers. Explain the reasons of your arrangement, and the length of time you allow to each subject.
6. Describe the organization and subjects of instruction best adapted for a girls' school of 100, between seven and twelve years of age.
7. State how you would organize a school if placed under your charge in one of the following cases:—

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* We may refer the reader to some very good papers which have appeared on this subject in "Papers for the Schoolmaster," and other English Education Journals.

1. 40 children, mixed, under a master, with no pupil-teacher, but with a mistress who attends all day, and can teach reading and sewing.
2. 60 children, mixed, under a master, with a pupil-teacher, and a mistress who attends in the afternoon to teach sewing.

8. Explain the tripartite method of organizing a school.

CHAPTER VII.—DISCIPLINE.

Discipline.

51. "Discipline," says Willm, "has often been confounded with education, and it is still too generally imagined that it can take its place. Discipline is the means of rendering education and instruction possible. Its object is to accustom the pupils to order, to obedience, and to application, which are the general condition of the success of teaching; it is the police, the government of the school. It is not an end but a means." We shall endeavour to point out in the following paragraphs the means by which the teacher may have such command over his pupils, as to put him in the best possible position for accomplishing his great work of educating and training the young. We shall endeavour to suggest some things which will tend to promote good discipline.

Proper superintendence promotes good Discipline.

52. We referred briefly to the subject of superintendence when treating of the uses of the play-ground. We return to it again for the purpose of showing that a watchful and careful superintendence of the children may do more to promote the discipline of the school than the most severe punishments. We remarked, that the child when in school is more or less under the master's eye, and whatever be his propensity to mischief, he will not likely indulge it, so long as he feels that he is observed. But if the restraint be removed, and sometimes all the more because the restraint has been removed, the pupil

will give way to the natural feelings and instincts of his heart, and will stand forth in his real colours. Now the play-ground, when not superintended, furnishes the boy with the opportunity of exhibiting and calling into action his bad qualities; and the tendency to mischief is increased by the sympathy of others equally vicious with himself. It is thus often that "one sickly sheep infects the flock and poisons all the rest." But had the play-ground been duly superintended, the master's presence would have checked the exhibition of what was wrong, and although no master can drive out the evil thoughts and purposes from a boy's heart, yet his presence would have effectually prevented these thoughts from bodying themselves forth in overt acts of wrong. But one might say that this was merely damming up the stream, but leaving the fountain still full and welling up. To a certain extent this is true, but yet the very act of preventing evil thoughts from becoming evil deeds tends to weaken the power of the evil thoughts. A man may naturally be very easily provoked to anger, but by habit he may have obtained such a mastery over himself as to be able at once to check, if not the angry feeling, at least the angry word or deed. And so with children; the very effort to restrain themselves from overt acts of wrong, tends most materially to weaken the desire to do wrong. And thus the master who cares for the highest interests of his pupils, will be careful that he not only gives them good counsel when in school, but that the counsel is, as far as possible, reduced to practice when they cast off the restraint of the school-room for the comparative liberty of the play-ground. In this way the habit of self-control, so essential to true dignity of character, may be fostered and cherished, until it becomes part and parcel of the man's very being. We all admire the man who can command himself—we consider him eminently entitled to our esteem and regard; who can tell how much of that which draws forth our admiration depends not on any innate difference in mental organization, but on habit begun in childhood, growing with his growth and strengthening with his strength. We have already remarked on the nature of this superintendence;—it ought not to be rigorous, it ought to impose no unnecessary restraint upon the free, spontaneous outgoings of childhood's mirth and joyous glee, and irrepressible love of fun. It ought to cherish all that is childlike and natural, and restrain only what is wrong and unnatural. The master who thus moves among his pupils, not as a hard, stern master, but as a tender, sympathizing, loving friend and guide, will seldom have occasion to have recourse to harsh measures in maintaining discipline.

Good organization promotes Discipline.

53. The prevalence of order or of confusion in a school might generally be taken as an index and test of the organization. If a school be properly organized, *cæteris paribus*, the order will be better than in a school which is badly organized. Order and organization are, within certain limits, correlative terms. If the organization is such that all the pupils know exactly what they have to do at any given hour, and where it ought to be done, there is little risk of confusion and disorder. Like well-drilled soldiers, the pupils fall into their places, and do the work which is assigned them. Apart altogether from the comfort and pleasure which such order gives to the master, the effect of it on the great end in view is very manifest. No time is lost in ascertaining where to go, and what task to begin. No two classes will clash together; for the master, like a skilful general, marshals his pupils in such a way that each knows his own colours, and the task allotted him to perform. Again, when the arrangements of the school are such that each child is kept fully occupied when in school, there is less chance of disorder than where one half are reciting a lesson, and the other half left to follow the bent of their own inclinations. In the latter case, how often does the master labour in vain. He is striving, earnestly and conscientiously it may be, to impart both useful and interesting information. He has begun while calmness and quiet reign around. The children not actually engaged, at first feel themselves under his eye, and maintain a decent exterior. But he warms with his subject, he becomes engrossed in it; his mind is so occupied with it that he forgets all but the class before him. Now is the time for the unemployed to begin their tricks and pranks. In direct proportion to the earnestness of the master are the noise and disorder. At last the confusion attains a pitch that is unendurable; he stops; there is dead silence; but one unlucky urchin, too

busy to notice the talismanic sign of his neighbour, is caught in the very act of caricaturing the master on his slate, and forthwith doomed to condign punishment. Were the scholars to blame in such a case as we have supposed? Verily they were not. They could not be idle, it would be unnatural if they were, and if the master does not provide employment for them they will find it for themselves. The evil, in such a case, is not limited to the mere interruption of the school-work; the habits engendered both in master and pupils are most disastrous to discipline; the master becomes fretted and impatient, the pupils idle and trifling, and not only so, the pupils having a secret consciousness that, however much they may like to be left idle, it is the master's duty to provide them with work, come to consider the punishment inflicted as a wrong, and to regard the master as a tyrant—feelings which sap the very foundations of the relation that ought to exist between them. Even in matters of smaller importance the school arrangements may conduce to promote discipline. In retiring from school, it is a very common sight to see the pupils rush out helter-skelter, as soon as the word of command is given; and very frequently the consequence is that, in the general scramble to get first out, the younger children are thrown down and hurt. The offending boy is, of course, punished, but the same scene is repeated on the morrow, with the like results, and the punishment seems to do little good. Now all this may be obviated by simply causing the children to march out in order, singing some one of their school-songs. This will effectually prevent all pushing and scrambling, and will do more to promote order than any punishment, however severe. And it will do yet more, it will engender that habit of respect for others, the habit of giving place to the weak and unprotected, which distinguishes the gentleman from the boor. Again, school arrangements may do much to do away with that restlessness in his pupils of which the teacher so often complains, but for which he has too often himself to blame. By the law of their being, children cannot remain long in one place, or at one occupation; change, frequent change, is a condition of health in their system. Accordingly the teacher who attempts to fix them, as he would blocks of wood, rigidly and for any length of time to one place, cannot but fail, for he is fighting against a law of their being.

Hence the teacher should provide frequent change of place, attitude and position, for the younger children, by alternating periods of short earnest work with short earnest play. And even in the short periods of work, physical exercises, such as clapping of hands, &c., are not only useful but absolutely necessary to maintain that healthy vigour of mind so essential to progress. With the more advanced pupils less change of position and subject will be necessary, but even with these it cannot be discarded without doing injury. These remarks will serve to show the relation subsisting between good organization and good order.

The Teacher's character affects Discipline.

54. Example is, in all cases, more powerful than precept. What the master desires his pupils to be, he ought himself to be. He must exhibit not merely a beautiful word-picture of what is becoming and proper, he himself must be the model which the pupils are to imitate.

> Segnius irritant animos demissa per aurem,
> Quam quæ sunt oculis subjecta fidelibus, et quæ
> Ipse sibi tradit spectator.

It seems to be one of the laws of our being that we are more influenced by what we see others do, than by what we hear them say. This is peculiarly the case in childhood. Children are largely imitative; much of their earliest and most important information is acquired by imitation. Hence the teacher who wishes to impress on the minds of his pupils the necessity of order, attention, and application, will require to see that he has himself acquired these important habits. To lecture the children on the advantages of punctuality, nay, even to punish them for the want of it, will not make them punctual, if the master does not exhibit a pattern which in this respect they may follow. If the master has not acquired the habit of order, if he carelessly throws aside a book without considering where he lays it, he cannot but expect that the pupils will do likewise. If he wishes to encourage cleanliness and neatness of person, he himself will require to be no sloven. Let no man consider these points trivial; we do not wish to see teachers metamorphosed into fops, but every teacher should be a gentleman; and this not for his own credit alone, but for the good which he may thereby effect among his pupils. In the region where discipline comes in contact with our moral nature, the remarks we have made hold true. An impetuous, rash, easily excited teacher, will not be likely to form gentle, patient pupils. In the moral, as in the natural world, everything works after its kind. The moral nature of children receives from the parent or teacher an impression as real as the wax receives from the seal. And this truth becomes all the more important when we remember that children, as well as adults, take on an evil impression more easily than a good one. Their hearts are not pure—there is no sinless period in man's earthly career—they are depraved, and this very depravity makes them draw more closely to what corresponds to it. Hence all the more necessary is it for the teacher to watch over his temper, to have thorough command of himself, and to be able to set before his pupils as perfect an example as fallen human nature can reach. We would with all earnestness press this great truth on the attention of young teachers. It is in vain for them to expect their pupils to exhibit those moral qualities which tend so much to adorn the character of him who possesses them, if they themselves, on being weighed in the balance, are found wanting. And in endeavouring to accomplish the ultimate end of all education—that of bringing souls to Jesus, the teacher's own character will be a more telling homily than all commentaries that were ever written. "Can any good thing come out of Nazareth?"—"Come and see," was the brief but significant answer. When the teacher's example is on the side of Godliness and Virtue, we have an influence for good in the school more mighty than lectures on Godliness when the precept is belied by the example. In this highest region of education, the unconscious influence of the teacher often accomplishes more than all his active efforts. The thunder and the lightning are mighty and powerful instruments—the windy storm may produce ruin and devastation, but very frequently it is not in these, but in the still small voice, that God reveals himself. The character of the teacher, apart from any active effort on his side, may thus have a most powerful influence on the whole discipline of the school.

Discipline will be affected by the motives brought to bear on the Scholars.

55. Where a school is governed by terror, the discipline may appear good, but it is so only in appearance. *Solitudinem faciunt, pacem vocant.* So long as the tyrant's lash is over the children, they will maintain the appearance of order, and will obey his behests. But the moment the fear is taken off, order will be succeeded by confusion, and obedience will be but the shadow of reality. Not only so, but a reign of terror will infallibly lead to attempts at deception and falsehood, which, under a more benignant sway, would have been entirely unknown. If a pupil knows that for faults both of omission and commission, for faults which he might have avoided if he would, and for faults which he could not have avoided, he is to receive one uniform punishment, the temptation is strong to endeavour to conceal the fault, and to gloss it over with a lie. Fear hath torment, and there can be no confidence between two parties where the one is animated with the mere slavish feeling of fear. Hence in such cases there is the total absence of that sympathy on the part of the master, and of that confiding trust on the part of the pupil, which go so far to cement and bind the relation which ought to subsist between them. We do not counsel indiscriminate kindness. There is a time to be angry; and the master who cannot feel angry, when there is occasion for it, is defective in one chief point of a complete character. Anger and kindness, hatred and love, are correlative terms, and we would not give much for the kindness of the man, in whose breast there would swell no indignant anger at a tale of wrong done by one school-boy to his fellow. But while anger has thus its use, let it not so far bear sway as to be protruding itself on all occasions. It will then gender fear, and "the fear of man bringeth a snare." "The evil begins at a very early stage of life. For infants the snare is thoughtlessly spread, and infants thoughtlessly step in. Those who have charge of children very frequently teach them in words to speak the truth, and by deeds entrap them into falsehood. The fear of man is a dreadful thing to a little child. When you conjure up terrors before his eyes, and accumulate threats, in order to deter him from one transgression, you are digging a pit which will ensure his fall into a worse. When you utter exaggerated threatenings, by way

of making an impression, you silently make allowance for your own exaggeration; but the infant, at least in the earliest stages of his experience, takes all for truth. He is filled with a great fear of you and your promised punishment ; when he commits a fault this fear rises up like a giant before him, and prevents him from confessing it. He invents a lie in order to escape the punishment, and another lie as a buttress to the first. The poor child is taken in the snare, but they are not guiltless who laid it across his path. Even when no previous threatenings have been uttered, children magnify in their own imaginations the pain of expected punishment, and the temptation to deceive is thereby proportionally increased. Early and earnest effort should be made to elevate the fear of God into potential predominance over the fear of man in an infant's mind. Severe punishments for trifling faults, on one extreme, demoralize as much as the utter abandonment of discipline on the other. Encourage to the utmost a truthful confession of the fault, by making it tell effectually in favour of the culprit. In education, let the chief aim ever be to make love of truth before the living God the power paramount in childhood's busy life. Dethrone, as far as it lies in your power, the fear of man, and let the fear of the Lord reign in its stead. Dread of punishment by a parent or a master cannot, and should not be extinguished ; its action is salutary, when its position is subordinate. There is no safety in the commonwealth while the supreme authority is in abeyance, or wielded by a usurper's hand. An event stands in distinct outline on the field of my memory, far distant in the otherwise dim back-ground of early childhood, relating to a certain little hammer which I lifted from its place without leave, and broke by unskilful handling. Dismayed at the sight of the damage which I had done, and dreading the retribution which might succeed discovery, I hid the fragments under a chest of drawers in the room, and retired into a corner to meditate a plan of defence. When the case came on I emitted a declaration to the effect that I knew nothing of the hammer or its fate. Experienced eyes easily read guilt in my countenance. The broken hammer was dragged from its hiding-place as a witness against me. The fragments, flourished in my face, choked my utterance, and refuted my flimsy plea. I was summarily convicted. When

I expected smart correction, my sister, who presided at the inquiry, gravely pronounced, from a hymn which we all knew well, the words—

"He that does one fault at first,
And lies to hide it, makes it two."

She paused, looked solemnly sorrowful in my face, and went away. I received no punishment; but my sister, acting a mother's part, although only thirteen years older than myself, was grieved because I had told a lie. My sister's silent grief that day went deeper in, and took a firmer hold, than any correction by a material rod that I ever received. She gently introduced the instrument, not by violence, but by a sort of lever-power and inclined plane, and lifted the child's spirit up from the fear of man where it was ensnared, and set it on the fear of the Lord where it was safe. For reward, she had from beneath the gratitude of a motherless boy, and from above the blessing of the orphan's God."* The great animating principle of the school should be love; and the master must learn to let his affection for his pupils manifest itself in his daily intercourse with them. A cold, stern, forbidding manner, may seem to produce obedience, but the obedience will be that of the outward man, not that of the heart. On the other hand, love will win and retain the sincere and real obedience of almost all. "The milk of human kindness" is one of the sweetest draughts in this weary world, and nowhere is its influence more needed, than among those whose young hearts are peculiarly open to its genial refreshing power. The power of love is well nigh omnipotent. It is the pivot on which heaven and earth move. "We love Him, because He first loved us," is the all-powerful motive to the right discharge of Christian duty. The same motive may be made equally efficacious in the school life of a child, and the master who is conscious that he cannot cherish this feeling towards his pupils, should at once bethink himself of some other occupation, where the exercise of the feeling may not be so necessary. These remarks will serve to show that proper motives brought to bear on children, will be powerful in the way of promoting discipline.

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* "Laws from Heaven for Life on Earth," Second Series, by the Rev. William Arnot, p. 367.

The Sympathy of Numbers may be made to promote Discipline.

56. Animated by the presence and example of his comrades, a soldier will dare on the battle-field what he would shrink from contemplating if he were alone. If a thief by habit and repute is left in the company of thieves, he is more likely to continue the practice of stealing than if he is alone, or is brought into the close companionship of honest men. Sympathy is powerful for good or for evil. The fact requires no elucidation; instances of it meet us at every step. The teacher can employ this principle of our nature, not only in repressing disorder and securing obedience, but in the higher work of stimulating active exertion. Let him so act as to secure the sympathy of the large body of his pupils, and his power over all will be well nigh omnipotent. In the infliction of punishment, let him endeavour to bring this power to bear on the culprit, and the effect in most cases will be great. This can be done; for children will not in general sympathize with an offender when he is justly punished. In questions of punishment, the instincts of children may be safely trusted. Whenever a teacher finds that the infliction of a certain punishment has so outraged the feelings of the great body of his scholars, that their sympathies are with the offender, and not with the master, it is a sure sign either that the punishment was not deserved, or that the master displayed feelings in administering the correction which counteracted the very design of it. In all cases let the master sedulously try to carry along with him the sympathies of his scholars, and he may wield them at will. When an offence has been committed, let its nature be clearly exhibited, the aggravating or palliating circumstances connected with it be pointed out, and the feelings of the children be brought to pity the offender, while they condemn the fault; and, if this is done, the teacher can inflict chastisement in the almost certain hope that it will be effectual.*

A Code of Regulations may promote Discipline.

57. The school is a miniature kingdom, which has laws for its subjects, and penalties for transgressors. If the scholars are to be under law, it is plain that they must be acquainted with

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* See this subject more fully discussed in "The Training System,"—10th Edition, by David Stow, page 153.

the code of laws by which they are to be governed. For this purpose every school should have a few plain and simple regulations, regarding order, punctuality, obedience, application and so on, drawn out and suspended in some part of the school where they will be easily accessible. These regulations should be few in number, and pointed in expression. The multiplication of rules does not of itself conduce to the observance of them. There is a greater likelihood that laws will be observed, when they are few and easily understood, than when they are numerous and ambiguous. They should embrace principles rather than minute details. When a boy cannot move to the right hand or to the left without coming into open collision with some prohibition, he has no liberty of action left, his spirit of resistance is evoked, and he is in more danger of offending than if left to his own sense of what is right. The love of independence is strong in childhood. The feeling is a noble one, and should be cherished by every legitimate means. But when every step is bristling thick with the sharp thorns of prohibitory laws, it is almost impossible to prevent the child from trampling on them, and wounding himself in the very act. Whilst, therefore, every school should have its code of laws, these laws should be framed in a liberal spirit, and should contain no petty or vexatious provisions. They should have the sanction of the school committee, so that any violation of them might be regarded as a transgression, not personally against the master, but against the school authorities. It is of the utmost consequence to remove the idea, so natural to children, that every offence is merely an offence against the master as such. The master should retain the whole executive power in his own hands, but he forms only a part of the legislative body. Let the children distinctly understand this, and it will give the master a mightier hold over them, than if they considered him an absolute monarch, ruling in virtue of his own sovereign will and pleasure. The moral effect of such a training will be great. It will habituate the children to that reverence for law, which is of so much importance in the body politic of which they will one day become constituent members. The law will be ever before them in that silent majesty which is of more value as a ruling power than regiments of armed soldiers.

Punishments.

58. While the means we have described will tend mightily to promote discipline, they will not in all cases prevent the occurrence of faults of so grave and serious a nature as to require the infliction of punishment. In every school, however well conducted, offences will come; and if punishment commensurate with the offence is not inflicted the bands of discipline will be loosened, and the power of the master set at nought. There is no part of the teacher's duty which requires more discretion and judgment than that of which we are now speaking. On the one hand, undue softness and indiscriminate leniency will result in disorder; on the other hand, undue harshness and indiscriminate severity will produce the same effect. We do not propose to lay down any definite rules applicable to all cases and in all circumstances, but shall content ourselves with one or two suggestions, which may help those who are really desirous of arriving at correct conclusions on this difficult and delicate subject. The punishment should be adapted, as far as possible, to the nature of the fault. Offences will vary in kind and in degree—some in their own nature will be more heinous than others; and the punishment should vary with the offence. For trifling offences, trifling punishments will suffice. A boy, who in taking his seat goes out of his own place, may be adequately punished by being made to stand by himself until all his companions are seated, and then allowed to take his seat. Another who rudely pushes past his comrades in order to get first to the play-ground, may be called back, and obliged to remain in the class-room a longer or shorter time according to circumstances. A third, who is detected talking when he should be working, may be brought from his seat and made to work alone. For more serious offences, more severe punishments must be inflicted. For moral offences, as deliberate falsehood, coarse or profane language, and such like, we must inflict punishments commensurate with the gravity of the fault. But in administering punishment, the *disposition* of the offender must be taken into account, as well as the *magnitude* of the offence. Two boys may have committed at different times the same fault—the one may be gentle, and by nature unwilling to offend, the other may be rude, and fond of giving annoyance. In the case of the former, a less severe punishment will serve the

ends of discipline than in the case of the latter. Again, of two boys who have been both detected in the same fault, it may turn out, on investigation, that the one was the instigator, and the other only the passive follower. The one will require to be dealt with in a manner very different from the other. What is requisite is to strike such wholesome terror into the one, as will act as a warning in all time coming; and to screw the courage of the other to the all important point of bidding away from him every allurement to mischief. It is scarcely necessary to say that punishment should never be inflicted for anything which a child could not, in all the circumstances of the case, accomplish. A lesson has not been prepared, or an exercise has not been written. In both cases there has been a violation of the rules of the school. But a little inquiry may lead to the discovery that the prescribed lesson was beyond the reach of the child's attainments; or, it may be, from some domestic arrangements, the child had not the time and opportunity to write the exercise. Punishment in such cases would be cruelty. Whenever the teacher has discovered that any fault of omission has taken place from circumstances for which the child is not accountable, that moment the uplifted hand is arrested, and a call is made to him—See thou do it not. This is a difficult task. To analyse a fault into its constituent parts, to determine with the most scrupulous nicety the extent to which the offender is guilty or innocent, requires tact and judgment. Yet the teacher must not shrink from this duty—happy is he if he can satisfy the ends of discipline and yet not punish what is not punishable. We have not deemed it necessary to specify particular kinds of punishment, considering it sufficient to indicate the principle which must be taken into account in administering it. There is, however, one species of punishment which we must consider more at large.

Corporal Punishment.

59. Much has been written on the subject of corporal punishment, and many arguments have been urged against the use of the rod as a means of discipline in education. In days gone by, the rod was used with no sparing hand, and it is not to be wondered at that a reaction against the employment of it should have set in. So long as the outry was confined to an exposure of the abuse of it,

there is no doubt but that this outcry was productive of good. It led teachers to ponder the question of discipline, to view it from a higher stand-point than what they had been accustomed to do, and was thus the means of introducing many valuable reforms in school government. When attention thus began to be drawn to the subject, the excessive lengths to which corporal punishment was carried led some educationists to demand not only the removal of proved abuses, but, that the teacher should be deprived of the power of inflicting corporal punishment altogether. But the abuse of a thing is no argument against its use. Because teachers had abused the rod, had employed it in many instances where it did postive mischief and not good, that surely is no reason why the rod should be wrested entirely from their hands. The question is a simple one; are there cases in the management of a school where the infliction of corporal punishment is not only necessary, but in dealing with which it is salutary? Any argument drawn from isolated passages of Scripture will not suffice peremptorily to settle the question; for this is a subject on which Scripture cannot be expected to give forth any unerring rule; but it does lay down principles for our guidance. The infliction of physical pain is admitted in Scripture to be not only allowable, but, in certain cases, absolutely necessary as a means of discipline; and in so far forth as we can settle the question by the principles recognised in the Bible, we are clearly of opinion that it is not of itself wrong to inflict physical pain with this end. But we go even farther: it is not only not wrong, it is, in some cases, necessary to have recourse to corporal punishment. There are some hearts so hardened, and some natures so callous, that no argument and no entreaty will take effect on them but those which appeal to their sense of fear. In such cases there will not be any hesitation in coming to the conclusion, that to refrain from having recourse to corporal punishment would be disastrous not only to the discipline of the school, but also to the children concerned. It must be remembered that the end of punishment is not simply prevention. It implies something more—the infliction of a given amount of pain, in some shape or other, for a given offence. The teacher has to form his pupils for playing their part in the battle of actual life. He is their ruler, who rewards the deserving for their good conduct, irrespective of the effect which the reward will have on the general body of his scholars; and who punishes transgressors simply because they are transgressors. Boys should be made to recognise in school the force of the maxim that "the way of transgressors is hard." The teacher who thus keeps in view the high ends to be served by discipline, will not be in much danger of erring on the side of severity. We have heard it said, that the infliction of corporal punishment by a teacher, in any circumstances, is inconsistent with love to his pupils, and tends to make him odious in their eyes. We admit that the indiscriminate use of the rod, for offences of all kinds, might have this effect; but we make bold to assert that he who uses the rod only in cases where it is absolutely necessary, may so use it as to concentrate on himself the affections of his pupils, who will love him all the more that he has used it at the stern call of duty. Necessary chastisement is not opposed to love. Sentimentalism may gloat over the picture of innocent boys swayed entirely by appeals to the nobler parts of their being; but love is wiser than sentimentalism, and knows that necessary correction is more beneficial than maudlin kindness. We have seen the tears rolling down a parent's cheeks, while he administered correction to his child. Did the infliction of pain on his child prove that he had no love for him—nay, verily, it was his love for the child that led him to chastise him. And so in school; the teacher may have the deepest sympathy with the boy, while he is compelled to punish him for his misdeeds. Where corporal punishment is thus inflicted, we believe all experience goes to prove that its action is salutary, and we are deliberately of the opinion that the time has not yet come when the rod should be banished from our schools, and consigned to our museums as the relic of a barbarous age. But while such is our opinion, we also hold that the less frequently it is had recourse to, the better. In this, as in all kinds of punishment, let the teacher consider seriously the nature of the offence; let him weigh all the aggravating or palliating circumstances; and let him above all see to it that he punishes not to gratify his own passion or revenge, but to do good to the offender. Let punishment, especially if it must be severe, be inflicted more in grief than in anger. Let there be no attempt to heighten the offence by unduly colouring it; let it be plainly seen that he punishes not because he is fond of so doing, but because duty compels him. The teacher who is thus conscientious in administering punishment will find that the occasions for it will gradually diminish, and that his pupils will come to consider the knowledge that he can and will punish when necessary, a sufficient motive to keep them from offending.

Emulation and Prizes. 60. We have spoken hitherto of those means by which order and obedience may be maintained; it remains that we make a few remarks upon the agencies which the teacher may legitimately employ in stimulating active exertion on the part of the pupil. Among these agencies, *Emulation* has always held a prominent place. We cannot express our sentiments on this subject better than in the following judicious extracts from "Willm's Education of the People":—

"Emulation exists as a natural disposition in every assembly of men pursuing simultaneously the same kind of occupation; it exists independently of all outward rewards or excitement, and has nothing in common with the hope of material advantage, or the fear of chastisement; it excites us to excel each other; to do better, or, at least, as well, as our companions. If this disposition is not manifested, something must strangely have altered nature; the sentiment of human dignity cannot have been awakened, or must have been stifled in the heart; and, what is scarcely possible, along with honour, the very germs of vanity and self-love must have been destroyed. Emulation is a generous ardour, which nature herself kindles and nourishes in the heart. There may be minds so indolent, so unhappily constituted, as never to have warmly felt its influence. There may be whole schools, in which, thanks to bad organization, the indifference of the master, or other circumstances, emulation is only weakly manifested; but in the school, as elsewhere, it exists naturally, and there is less need of exciting it, than of directing it aright. If to this natural sentiment be joined the presence of a judge, the public eye, murmurs of approbation or of blame, applause and honour—it will be exalted to enthusiasm. When natural, emulation is a warming and life-giving heat; immoderately excited, it becomes a devouring flame. The question is, then, not whether emulation in general should be employed; it cannot be suppressed without injury; it has nothing immoral in itself, any more than the sentiment of honour, respect for self and others, of which it is a manifestation. But it is of importance to know if it be advantageous to education that we force it, or stimulate it by artificial means, by rewards, distinctions, or distribution of prizes; and it is of especial importance to know whether this artificial emulation ought to be employed in schools for the people. The question thus stated I do not hesitate to answer in the negative. If instruction only were needed in schools, and no other end proposed than to obtain the greatest and speediest results, teachers might, without hesitation, make use of all the means in their power to arrive at it; and among these means would be rivalry, vanity, and even the cupidity of their pupils. Again, to employ it legitimately, we must suppose that all that is required is to obtain a certain final result, for the sake of which we might trample on all separate or individual considerations. Thus, a General on the day of battle, which may decide the salvation of his country, wishes to gain the victory at any price; it is of little consequence to him that a great part of his soldiers perish, provided his country be saved. But it is not success of this kind that ought to be striven for in school; and it is not allowable to sacrifice there the least of the pupils to cause others to make rapid progress; and still less to nourish bad passions in them for the benefit of instruction alone. *Any means which might benefit the majority at the expense of several others, or even of a single one, ought to be rejected as immoral.* By immoderately exciting emulation, is it not to be feared that, while the most ambitious and most persevering make rapid progress, and procure a brilliant reputation for the teacher and the establishment, others, more timid or less happily gifted, may be discouraged and stop half-way? If the school, in which each ought to profit in proportion to his application and his power, be converted into an arena—where each runs only to arrive first at the goal—where the only thing thought of is to bear away the prize—is there no danger that all who feel they have not strength to outstrip the others, or who see themselves much outrun, may despair while running the race, because they have been falsely persuaded that the only material point is, not to *arrive* sooner or later, but to arrive *before the others?* By awarding public prizes to success, there is danger of filling the strong with vanity and pride, of over-working the middling, and of entirely discouraging the weak. It is far, however, from my thought, to recommend the total suppression of those public exhibitions, called fetes of emulation; I only wish that the prizes be awarded more expressly for good conduct, and constant application, than for success and talents. In the case of popular schools, without speaking of the bickerings and enmity to which the distribution of the prizes awarded to success often gives rise, in small localities, there are still greater disadvantages; for there more than anywhere else, *education* ought to be the principal end. Instead of terminating the year by the distribution of prizes, it would be better to close it by a public examination, which would be a trial at the same time for the teacher and the pupils; and if prizes are awarded, let them be given to good conduct, which includes diligence as well as morality." The question now occurs, how are we to employ this potent principle of emulation, so as to render it a motive power in the school. It has been stimulated often to an undue extent by place-taking, and it becomes important to determine how far place-taking is beneficial or the contrary. The difficulty attending the solution of this question arises from the fact, that, in the excitement consequent on an animated examination, mere smartness is apt to take the place of real ability. When questions are thrown off with great rapidity, there is danger that the answer will require, not thought so much, it may be, as memory, or a certain degree of superficial cleverness which is quite compatible with shallowness of intellect. Hence, in such cases, it often happens that the boy of largest mind, whose spirit is touched to the finest issue, may not occupy a local position in the class at all commensurate with his real merit. By advancing a mere shallow pretender over the head of such a boy, we are doing what in us lies to give prominence to those features of mind which are comparatively useless, and by the same act we tacitly, at least, cast a slur upon those manifestations of mind the development of which ought to be our chief study. In this very fact we have an explanation of the popular fallacy, that all men of genius and commanding intellect were dunces in School. We can easily understand that they may have appeared so to one who satisfied himself with the mere husk of intellect, but who had not patience or discernment to detect the precious fruit beneath. On these and many other grounds, we would lift up our voice against the undue and excessive length to which place-taking has been carried; but, at the same time, we do not advocate its total disuse. When local pre-eminence is given to sterling merit—merit determined by conduct and progress—no harm but much good will ensue. Each child will thus have the opportunity of obtaining a position corresponding to the actual progress made in a given time, and to the spirit manifested during that time. The test of progress, however, should by no means be confined to mere details, but should embrace the actual mental attainments made by the pupil, in so far as these can be ascertained. Emulation may also be legitimately encouraged by advancing a boy from one division of a class to another, and by advancing him from one book to another. When a division of a class see a boy who commenced at the same time as themselves advanced, on the pure ground of merit, they are at once incited to desire the same promotion. The judicious teacher can also make the discharge of various portions of school work so honourable as to become objects worthy to be sought after. Thus, the giving out of pens, the arrangement of the desks, acting as a monitor, and such like things, may all be made rewards to the deserving. In these and in various other ways, emulation may be so employed as to become a healthy stimulus, without producing any of the injurious effects which are so apt to flow from it when unduly excited.

Other means of Discipline.

61. The progress of the pupils will depend much on the interest which the teacher contrives to throw into their work, and on the degree in which he exercises and calls forth their thinking powers. This is seen very clearly in the case where the teacher has any one special field of study; he is interested in it, and this very fact soon renders it an object of interest to his scholars. Let the teacher thus extend his interest to all the subjects of instruction, let him count no part of it too mean to kindle his

enthusiasm, let him throw himself heart and soul into every lesson, and he will produce effects which no negative means of discipline could accomplish. Too often in this respect the teacher and his scholars stand on isolated non-conductors; no electric flash can pass from his mind to theirs, and hence no general excitement takes place. In giving a lesson on geography, the teacher frequently stands with his back to the class, his face poring over the map, and his hands stretched backwards, and in this attitude, he asks mere dry details of topography, which possess no interest to the pupils. Need he wonder that the lesson on geography has not been prepared, or that the scholars make little progress? That subject, which above almost all others, admits of being made so intensely interesting as actually to rivet the attention and to kindle the enthusiasm of a class, has been gone over in a listless, uninteresting, matter-of-fact style, and the cold shade of the teacher has withered the very life out of the children. And thus it is in all subjects; first and foremost arrest the attention of the class, excite their interest in the work to be done, evolve thought, and if this is done, there will be little need of having recourse to any artificial stimulants in order to secure progress. In order to this, however, it is absolutely necessary that the teacher prepare for his class with the utmost conscientiousness. Without careful preparation, there cannot be that freshness, that thorough mastery of the subject, which is essential in him who would communicate instruction to others. The co-operation of parents should also be sought as an important aid to the teacher. Where parents are truly alive to the best interests of their children, they will endeavour, by every means in their power, to strengthen the teacher's hands, by seeing that the prescribed task is prepared. Where this is not the case, where parents, as too often happens, consider their responsibility over when their children have gone to school, the judicious teacher will seek to lead them to take an intelligent interest in school-work, by pointing out to them the various ways in which they may encourage their children in their studies. And in conclusion, the teacher should seek so to train the moral sense of his pupils, that they will learn, it may be in a faint and inadequate way, to do their work from a feeling of duty. This is the highest attainment in school government, but it is one which ought to be constantly aimed at. The scholars should have this mighty truth impressed on them both by precept and by example. Let the teacher continually set before them the motives to exertion which ought to animate them—love to their work as their appointed sphere of duty, and let him, at the same time, exhibit in himself a practical example of his dogmatic teaching. The teacher who thus sets before his pupils the pattern of what he desires them to do, who is animated by the desire of glorifying God in his high calling, will cast the spell of his own earnestness over them, and may wield almost at will their wayward but plastic, impressible hearts.

EXERCISES.

1. Define what is meant by Discipline.
2. What means may the teacher employ to promote Discipline?
3 Illustrate the truth that other things besides the gravity of the offence may be taken into account in punishing a child.
4. In what respects may the teacher's own character affect the discipline of his school?
5 How far, and in what ways, may Emulation be encouraged?

CHAPTER VIII.—METHOD.

Method.

62. In strict propriety of language, the term "Method" has reference to the particular mode in which the subject matter of education is developed and presented to the mind. It is merely the outward form, while instruction is the substance. It is the shell, while the instruction communicated is the kernel. But the kernel determines the form of the shell, not the shell that of the kernel. So it is in method—it must be determined by the object we aim at; it will take its complexion from the views which we entertain in regard to what constitutes education. If we consider education as consisting in the communication of a certain number of facts, in loading the memory without cultivating the imagination or the reason, we need pay but little attention to the method by which we accomplish the desired

result, provided we do reach it. But if, on the other hand, we regard education as the development of an inward life; as the evolving into active and harmonious exercise the various principles of our nature; and if we believe that these principles exhibit themselves in a determinate order, and according to fixed general laws; then the method by which we can secure this development becomes of great importance. So long as we hold low and inadequate, or, it may be, entirely erroneous views in regard to the end of education, so long will we pay little attention to the methods we pursue; but, in proportion to the comprehensiveness and soundness of our notions regarding education, will be the care and anxiety exhibited to follow what reason and experience have proved to be the best methods of conducting the education of the young. And this question of method is not one of secondary importance, which the teacher may neglect or not according to his pleasure. He can only neglect it at his peril; for, properly put, the question resolves itself into this—how can I best communicate instruction to a child so as best to secure the development of all those powers which the Creator has bestowed upon him?—How can I best train him to discharge his duties here, and to be prepared for the life to come? In all questions of method, accordingly, the first point to be settled is, what is the end of education, and when this has been determined, there arises the second point demanding a solution—how can this end be most effectually secured? Method solves the second problem; but its solution depends upon our having a thorough understanding of the first. There are two methods by which a subject may be developed and presented to the mind—the Synthetic and the Analytic.

Synthesis and Analysis.

63. We do not propose to balance these two methods against each other, and to determine which of them ought to be employed in any given instance; for the judicious teacher will employ either according as he finds it suitable to the subject of instruction, to the proficiency of his pupils, and to the accomplishment of the end he has in view. Synthesis commences with principles and rises from these by regularly connected steps to the conclusion aimed at; it ascends from the particular to the general. It is the logical method of developing truth. We

have admirable specimens of this method in the propositions of Euclid, where the reasoning, based on a few axioms, or universally admitted truths, proceeds in regular logical sequence until the conclusion sought is arrived at. Analysis, on the other hand, commences with the general and proceeds to the particular. The following illustration, taken from the writings of Dugald Stewart, may serve to give not only the probable historical origin, but also the application of these two terms:—

"Suppose a knot of very artificial construction to be put into my hands as an exercise for my ingenuity, and that I was required to investigate a rule, which others, as well as myself, might be able to follow in practice, for making knots of the same sort. If I were to proceed in this attempt according to the spirit of a geometrical Synthesis, I should have to try, one after another, all the various experiments which my fancy could devise, till I had, at last, hit upon the particular knot I was anxious to tie. Such a process, however, would evidently be so completely tenative, and its final success would, after all, be so extremely doubtful, that common-sense could not fail to suggest immediately the idea of tracing the knot through all the various complications of its progress, by cautiously undoing or unknitting each successive turn of the thread in a retrograde order, from the last to the first. After gaining this first step, were all the former complications restored again, by an inverse repetition of the same operations which I had performed in undoing them, an infallible rule would be obtained for solving the problem originally proposed; and at the same time, some address, or dexterity, in the practice of the general method probably gained, which would encourage me to undertake, upon future occasions, still more arduous tasks of a similar description."

Such then is the meaning of the two terms. Now although the Synthetic method be admirably adapted for presenting truth in a systematic form, it is questionable if it be in all cases, especially with the young, the best method of communicating truth. Children long for realities, for things; but by this method they are kept for a long period on the outskirts of the subject; the way has to be cleared; definitions have to be settled; and first principles laid down, on which to rear the intended structure. But all this preparatory work, essential in a scientific treatise on any given subject, is wearisome to children; they are unable to appreciate what is not near and tangible. Now analysis possesses this advantage, that it takes things as they really exist, presents them in every-day dress to the minds of children, and thus not only interests them by the exhibition of what is familiar to them, but exercises their ingenuity in leading them to discover their properties. If Synthesis be the logical method of developing truth, Analysis may be called the natural. Its work must precede that of synthesis. In childhood, and on to a considerably advanced state of boyhood, we know that the perceptive faculties are principally exercised, and that the logical do not manifest themselves until a later period. The exercise of the perceptive faculties, indeed, prepares the way for the due exercise of the logical. It is on the facts collected, and the observations made in childhood and boyhood, that the man reasons and compares. It would follow from this that with children we should most frequently employ the analytic method. We may give an illustration of these remarks by referring to two very different methods of teaching Geography. According to the synthetic method, a book of definitions is put into the hands of the children. These definitions are carefully committed to memory, little care being taken to see that they are practically understood. When these definitions have been lodged in the memory, the child is gradually led on step by step, and ends exactly where he ought to have begun—with things around him. Now this method would be admirable, if our object were to give the child a strictly systematic view of the subject; indeed, by no other method could we accomplish this. But while we are thus laying down our definitions, and our first principles, there is danger of disgusting the child altogether. He cannot see the far off object we have in view, and hence he wearies of our dry prelections, and ceases to take any particular interest in what has no immediate concern with him. But by the analytic method, we begin at home.—The small hill seen from the school window, with the stream running down its side, is made the basis of a lesson on the mountain and river systems. The child is at once interested. He knows the hill; he has forded the stream; he has played on the slopes of the one, and cast his tiny line into the other.

The teacher, who commences in this method, will find that he has touched a sympathetic chord in the breasts of his scholars, and he will be enabled to lead them almost at will. Definitions can be wrought in as the lessons proceed, and after a time, when analysis has cleared the way, synthesis will step in, and arrange into a beauteous whole the *disjecta membra*, which have hitherto floated on the surface of his mind. We shall have frequent occasion in the remaining chapters of this work to refer to the application of these two methods; and in the meantime we shall content ourselves with remarking that he who would adequately fulfil the duty of an instructor, would require to study carefully the human mind, and to mark and observe its mode of working, that he may thereby be enabled to suit his instruction to the circumstances of his scholars, and to wield at will either of the methods we have briefly described. "In nothing is the really able and skilful master more easily discriminated from the sciolist and mere adherent to a method or system, than by his ability to interchange these forms at will, and, when one mode of presenting the illustration or statement of a new truth or fact to the mind does not succeed in rivetting attention and in securing its clear and vivid apprehension, to have recourse instantly and with perfect naturalness and ease to another and more suitable expedient. This is the true test of a skilful teacher; and in the hands of such a man, the conduct of the processes of intellectual instruction will include the chief formal peculiarities of every rational method that has been propounded. Nothing can give this mastery of methods but a complete and philosophical examination, and a thoroughly intelligent appreciation of all, and to this lofty exercise it is most desirable that the aspiring teacher should immediately and strenuously address himself."*

Individual Instruction.

64. While the analytic and synthetic methods are, strictly speaking, the only two methods that can be used in presenting truth to the mind, the practical application of them may, and often does, vary according to circumstances. Thus we may teach individually, simultaneously, or mutually by making the pupils instruct

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* Report by John Gibson, Esq.—Minutes of the Committee of Council on Education, 1848-49-50, Vol. II., 614.

each other. It is to be observed, however, that these various plans have reference, not to the method by which truth is developed, but to the particular way of handling, if we may so term it, the pupils. Whether the teaching be individual, simultaneous, or mutual, it must proceed on one or other of the methods we have described in the preceding paragraph. In individual teaching, each pupil is brought immediately and directly in contact with the mind of the master, and may thus be expected to receive a more powerful and lasting impression than when he is addressed as one of many. It is not meant that, in individual teaching, each scholar is examined alone. The scholars, whether the instruction be individual or simultaneous, are arranged in classes. What we mean by individual teaching is, that each child in any one class is singled out, and made to perform his share of the work. Thus, is the lesson a reading one, each pupil in the class reads a certain portion; and so in regard to any particular lesson. This being premised, we say that it is only by individual teaching that the master can come into direct and immediate contact with each scholar, and that he can effectually secure that the prescribed task has been performed, or the necessary explanations received and understood. When we remember that education owes its chief value to the direct influence which a thoroughly equipped and well furnished mind brings to bear on the young; that it is this collision of a fully developed and matured understanding with the crude embryo notions of the young, which kindles their intellectual life, and moulds their plastic spirits; we cannot fail to perceive that any plan which brings the master-mind of the school most closely in contact with the minds of the scholars is a plan which ought not to be neglected. Hence the teacher, who considers the high end of education, will constantly endeavour to be in living contact with the intellectual life of his scholars. He will endeavour always to have a connecting wire between himself and them, along which the pulsations of his own mind may travel, and beget similar pulsations in them. But not only is individual teaching thus valuable and important, it is the only safe mode of ascertaining that a prescribed task has been performed. Children, like others, are easily overlooked in a crowd; and when care is not taken to see that each child does most regularly and punctually do his duty, we throw temptations in his way which are sometimes too strong for his honesty. And in regard to explanations, of some rule, suppose in arithmetic, the only mode of testing the extent to which the explanation has been clearly and thoroughly understood, is to single out successive individuals in the class and cause them to repeat what has been explained. In every case, in which any explanation of a general principle has been given, the teacher should satisfy himself of the reception of the information by questioning individuals. We shall have occasion, as we go on, to show more fully the application of these remarks. In the meantime we may repeat, that, in teaching, the more each child is individualized, the more closely the master deals with him alone, the greater likelihood will there be of his instruction taking effect, and springing up in the full luxuriance of a rich and fruitful harvest.

Simultaneous Instruction.

65. The term *simultaneous*, as employed in education, is sometimes used to denote that the children are taught in classes, and not one by one. We employ it here, in opposition to the term *individual*, to signify that the questions are addressed to the whole class indiscriminately, and that the whole class are invited and expected to answer. The advantages of such a plan, if skilfully and judiciously used, are, that it enables the master to accomplish a larger amount of work, and to develop more powerfully the sympathy of numbers than is possible in individual teaching. But the dangers of such a plan in the hands of an unskilful or lazy teacher are manifold and obvious. An unskilful teacher is apt to deceive himself, and to do incalculable injury to many of his pupils, by failing to perceive that the answers to his questions, or the filling up of his ellipses, proceeds only from a few pupils, and that, too, generally from those who were acquainted with the subject, while those who were ignorant of it, and who, on that account, ought to be the objects of his special care, remain ignorant still. The lazy teacher has recourse to the method to save himself from trouble, and to conceal from himself and others the general inefficiency of his teaching. Where the teaching is purely simultaneous there can be but little of that direct contact of mind with mind, which gives to education its highest value. The master is working, to a large extent, in the dark. He

cannot tell the peculiar idiosyncrasy of each child; he cannot gauge his mental calibre: and is thus deprived of his greatest lever as an educationist. In its own place simultaneous instruction is useful, but if used alone, it is utterly pernicious. Its proper sphere is when the master is elucidating general principles; when he is discussing some law or principle, suppose, in Geography; when he is explaining some rule in Arithmetic, or giving some general lesson in Science. For such purposes simultaneous instruction is admirably adapted. So long as the master is engaged with the general, he may teach, not only successfully, but perhaps most successfully, on the simultaneous method, but the moment he leaves the general and comes to the particular, he must refrain from the simultaneous, and adopt the individual method. Thus, for example, in giving to a class an explanation of the rule of simple subtraction, the master may convey the general principle to his pupils simultaneously; indeed we believe that he will find this the true and safe method. But he will commit a sad mistake if he adhere to the simultaneous method when he comes to apply the rule to particular examples. As soon as he thus begins with particulars, he must individualize his scholars, in order to ascertain that each pupil has thoroughly grasped and mastered the explanation for himself. This illustration will tend to show the place and power of simultaneous instruction. One great end of education should be to educe the individuality of each child; this end ought never to be lost sight of, and it is because we dread the effect which simultaneous teaching would have on this end, that we would caution the young teacher to be sparing in the employment of it, but rather constantly to aim at the establishment of a living and life-transfusing sympathy between himself and each of his pupils, by bringing himself daily and habitually in contact with their mental life.

Mutual Instruction.

66. Mutual Instruction has not produced the results which, at first, it seemed to promise. Nor is this to be wondered at, when we reflect that the fundamental idea of pure mutual teaching was false. The object aimed at by it was noble; and the founders of it were actuated by the most philanthropic motives. Children were growing up ignorant and untrained; and it was a truly

laudable and praiseworthy enterprise to attempt to train them by the assistance of the more advanced scholars. And, moreover, at a time when money was profusely lavished on all schemes, except on education, the plan had the seeming advantage of educating many at a small expense. But, as we have said, the plan was based on a wrong principle. The true end of education was lost sight of, and the blind were set to lead the blind. Children, whose notions on all things were crude and ill-formed, were entrusted with the work of educating other children, whose mental attainments were almost on a level with those of their instructors. The mutual or monitorial system has, in consequence of this fundamental error, proved a failure. It has been superseded by the Pupil-Teacher system, which possesses this advantage over that which it has supplanted, that the agents it employs are more advanced in years, and, it is to be expected, in intelligence also; that they serve a regular apprenticeship, and pursue a systematic course of training. But even with these advantages, we would fain hope that the pupil-teacher system is but the prelude to something still better, and that the time is not far distant when, instead of raw lads being sent to operate upon the young, every school will have its regularly trained master, and its quota of trained assistants, proportioned to the number of scholars in attendance. We had occasion in a previous chapter to point out the proper sphere of pupil-teachers in the school. We merely refer to the subject again with a view of impressing on teachers the absolute necessity of entrusting to pupil-teachers only such kind of work as we have shown them to be capable of performing.

Questioning.

67. In questioning a class of children, there are certain points to which the young teacher would do well to attend. We have already stated the extent to which the simultaneous and individual methods of examination may be respectively employed; and we have shown that the latter is the safer and more effective of the two. But in individual examination, it is not necessary that the teacher should commence with the pupil at the top of the class, and go regularly through. Such a plan, if the class is large, would have the effect of leaving the large majority of the scholars comparatively idle during those portions of the examination

which did not immediately concern themselves. The consequence would be that those who were not being directly examined would be apt to become careless and inattentive, and thus distract the master's attention. In order to obviate these disadvantages, the master should first state the question to the whole class ; and, after allowing sufficient time for reflection, he should then single out some scholar indiscriminately to give the answer. In this way, the attention of all is kept up, and the examination proceeds quietly and unostentatiously, it may be, but very effectively. Each child is liable to be called upon to answer any or every question, and he is thus kept from being indifferent. The time spent in conducting an examination in the mode we have described is not greater than in the ordinary way. But even were it greater, the plan, if adopted, will amply repay any loss of time, for what seems to be lost in time is compensated for by the entireness and thoroughness of the work. A judicious master will, by a single glance of the eye, know whom to select to give the answer, and his power over the whole class will be as great as over each unit of the class. Such a method of questioning, combined with occasional simultaneous questions, will prevent the spirits of the children from flagging, and will sustain the interest unbroken to the close of the examination. Every question should be stated clearly, succinctly, and with strict avoidance of all ambiguity in the expression of it. Anything approaching to technical terms should be sedulously guarded against, until it is known that the terms are clearly understood by the children. General abstract terms are useful only when their meaning is clearly perceived by the mind. When once their true signification has been thoroughly grasped, such terms are of the highest utility, inasmuch as they save much needless repetition. But they are only of value when understood. The teacher, before making use of such terms, will accordingly see to it that the scholars have formed a clear conception of their meaning. Thus, for example, to one who can interpret them, the terms employed in natural history possess a deep significance, and a few such will often convey to a naturalist a more accurate notion of the thing signified than whole pages of verbose description. But the ability to repeat these terms is not co-extensive with the ability to interpret them ; and it is quite within the bounds of possibility that children may be taught to repeat all the classifications of a Cuvier, without having the slightest understanding of their meaning. In putting questions, accordingly, and in accepting answers, the teacher should take particular care to use or to receive no word, the meaning of which is not understood. The questions should be graduated to suit the capacity of the scholar. There should be no excuse either for no answer or for a wrong one. Every child should be expected to answer; and if in any case his inability to answer arises from his not understanding the question put, the teacher should at once throw it into a different form, or, if it be too complex, he should resolve it into its constituent parts. Every expedient should be had recourse to in order to secure an answer from each child, and not merely to secure an answer, but the correct one. Such a plan develops the confidence of the child in his own powers, and when we have taught a boy that he can do a thing, we have put him on the way of actually doing it. The child should be required to give a complete answer to every question. The mere substance of the answer should not be accepted—the matter of it is very important, but, in some respects, the form of it is equally so. The answer should contain a completely developed proposition; for, in such a case, the teacher can turn the examination on any lesson into one of the best, because a practical, means of teaching correct speaking. Dry grammatical rules will never by themselves teach the correct method of speaking or writing the English language. It is the reduction of these rules to practice that is useful, and every lesson should form an exercise in the correct use of language. The pupil should also be encouraged to give the answer in his own terms, and it will frequently be found that these terms, although perhaps not strictly pure, are yet remarkably expressive. A double benefit results from such a plan; an opportunity is furnished of giving the correct expression for the thing signified, and at the same time the master learns whether the pupil has acquired the knowledge of the thing itself, or whether his knowledge is confined to the mere name. In some respects, the mere knowledge of the name is utterly valueless, compared with the idea which the name represents, and it is of the utmost consequence to distinguish accurately how far the child's knowledge really extends; and this can be best done by allowing him to give utterance to his views in his own words. But, as we have remarked, for all terms which are merely provincial, the teacher ought to substitute the word which is the real sign of the idea. Questions should be so framed as not to contain the answer, and, in putting them, the voice should be so modulated as not to suggest it. If these things are not attended to, the question serves no good purpose—it is a waste of time. In history, a question of the following kind is of no value whatever—"Was not Elizabeth of England contemporary with Mary Queen of Scots?" There can be no doubt as to the answer, and the question is useless. Neither should questions, requiring for answers the monosyllables yes or no, be introduced, except as leading questions, when they furnish the basis of a continued examination. The great end of this kind of examination is to stimulate thought, not to call forth mere smartness; and hence the examination should be conducted calmly, with great deliberation, and with a due regard to the ability of the particular pupil. Young teachers are very apt to confound rapid questioning and answers with sure and effective teaching, and to imagine that the largest amount of work is performed where there is most excitement and physical movements. We would take it upon us to caution all young teachers against being misled by this too current belief, for, in many instances, the very reverse would be nearer the truth. Some minds may be so formed as to *think* with great rapidity, but the vast majority are not so constituted; and, as the true teacher must rest satisfied with nothing short of the evolution of thought, he must learn carefully to discriminate between the semblance and the reality of actual thinking.

Ellipses.

68. Much of the information communicated by the teacher to the children will be given in oral lessons. Almost all the branches of education should be taught, to a large extent, orally; and this holds especially true of lessons on science, natural history, and such-like subjects. Text-books on such branches are comparatively of little service, and those at present in use are so miserably adapted to their purpose that they frequently do more mischief than good. But however excellent the text-

book may be, the master's own mind must, after all, be the chief store-house whence the information of the pupils is derived. Now, in conducting these oral lessons, when the object is not to examine the pupils on the amount of knowledge which they possess, but to consolidate and extend that knowledge, it is evident that direct questioning will not, by itself, be sufficient. Direct questioning, whether conducted individually or simultaneously, forms an admirable method of taking stock of the pupil's acquirements, but it is not equally well adapted to lead the pupil on to new regions of thought, and new fields of observation. For it will be observed, that in oral instruction the teacher assumes that the child is ignorant of the facts which he is about to state, and of the conclusions which he intends to deduce from these facts. No doubt, a question may be of such a suggestive nature as to lead the pupil to divine almost intuitively the answer, and may in this way become the means of leading him on from one point to another, until an entirely new subject has been brought before him. But, in general, it will be found that such suggestions can be far more effectively given by introducing to the pupil's notice a certain portion of the statement, and, when he has thus obtained the requisite hint, by allowing him to complete the idea. This prevents the lesson from degenerating into a mere lecture, which, as an educational power, is utterly valueless where children are concerned. The teacher is introducing his pupils into a new untried field. He will do them little good, if he walk rapidly through, discoursing, eloquently it may be, on its wonders and its beauties; but he may arouse their attention, secure their interest, and thus set them a-thinking, if he moves slowly forward, giving a hint here, and a hint there, but allowing the pupils to discover for themselves the objects of interest which lie in their path. Here, we believe, lies the great value of *Ellipses* in education, and, if properly conducted, their power is undoubtedly great. But the young teacher would require to guard sedulously against the abuse of them. When by their assistance he has led his pupils one decided step onward, he must pause, and ascertain by direct question to what extent the point arrived at has been understood. For it is quite possible that a great fund of information may have been communicated. and that the children may have filled in the ellipses properly, but this is no valid proof that the lesson as a whole has been received and thoroughly mastered by the children. To ascertain this, they must be subjected to a rigorous cross-examination; which, however, need only embrace the leading points in the lesson, for if these are clearly understood, it is an almost infallible sign that the whole bearings of the subject have been comprehended. Ellipses are thus mainly valuable in communicating information, but the working in of that information into the very texture of the mind, must be accomplished by questioning, or, as in the case of arithmetic, by requiring the pupil actually to reduce to practice the information he has received. Questions and Ellipses are thus not the opposites, but the complements of each other. Each has its own place in education, and each may be made to subserve the most important ends. But it is only when the two go hand in hand that good will result; if either (and especially if ellipses, being by nature the weaker power,) is allowed to usurp an undue influence, the instruction will, to the extent of that usurpation, be unsatisfactory. And we may remark, in conclusion, as was remarked in a former paragraph, that he will most efficiently fulfil the high ends of his office, who can employ these methods at will, and who can have recourse to either when he finds it most suitable to reach and to arrest the minds of his pupils.

EXERCISES.

1. Define the term method, and show its importance in Education.
2. Explain and give examples of the Synthetic and Analytic methods.
3. State the distinctive features of the Simultaneous and the Individual methods of teaching. For what subjects are they respectively suited?
4. What are the chief practical objections to the Elliptic and Simultaneous methods? How can these objections be obviated?
5. What are the uses of questioning as a method of teaching? Is it expedient to limit all oral teaching to that? If not, in what manner, and to what extent, may exposition best be united with it?

CHAPTER IX.—THE ALPHABET.

Language spoken and written.

69. Language is the dress in which thought bodies itself forth, and makes its power felt. By itself it is meaningless—only when it is the symbol of thought does it become significant. Its function

is to represent, and to make manifest the inner workings of the mind. The mind has many ways of exhibiting its actings—the smile on the infant's cheek, the blush of conscious innocence, the heaving of the breast when agitated by deep emotion, all serve to reveal the otherwise hidden movements of the intelligence within. But articulate language is the most perfect vehicle for communicating to others the thoughts that breathe and struggle for expression. Spoken language, however, great though its power be, is comparatively limited in its range. To influence a man, or any body of men, by means of spoken words, the speaker and the audience must be in proximity to each other. Communication between parties at a distance by this medium is impossible. But what spoken language could not accomplish, written language renders easy. The latter, in its own nature posterior to the former, symbolizes sounds, and thus renders it possible to represent to the eye the identical meaning which the sounds would have if addressed to the ear. Written language thus entirely consists of signs, and always presupposes spoken language.

What is implied in teaching to read.

70. From the preceding observations it is manifest, that, in teaching children to read, the teacher's object is, not to communicate to the child new sounds, but simply to enable him to interpret those symbols which have been agreed upon as representative of sounds. Long before the child has entered school, he has mastered all the sounds, and almost all the combinations of sounds, which language is capable of producing. He knows the names of all the familiar objects in his neighbourhood, he can express in words his ideas of those things which interest his affections, and feels no difficulty in uttering and expressing clearly any new name which may be pronounced in his hearing. The child does not require to be taught new sounds, but simply the correct use and application of those symbols which, in any given language, are employed as the signs of sounds. This should never be lost sight of by the teacher. Let him keep constantly in view the real object for which the child is at first put under his care, and much of the mist and haze which have darkened the question of how to teach the alphabet will disappear.

Common mode of teaching the Alphabet.

71. Were the remarks which we have made duly weighed, it appears to us that the common mode of teaching the alphabet by the names of the letters would soon be discontinued. The following is no unfair picture of what is still too common :—"The teacher calls up a class of abecedarians, or, what is more common, a single child, and while he holds a book or a card before him, with a pointer in hand says, *a*, the child echoes *a* ; then *b*, and he echoes *b* ; and so until the vertical row of lifeless and ill-favoured characters is completed, and then remands him to his seat, to sit still and look at vacancy. If the child is bright, the time which passes during this lesson is the only part of the day when he does not think. Not a single faculty of the mind is occupied, except that of imitating sounds ; and even the number of these imitations amounts only to twenty-six. A parrot or an idiot could do the same thing. And so of the organs and members of the body. They are condemned to inactivity ;—for the child who stands most like a post is most approved ; nay, he is rebuked if he does not stand like a post. A head that does not turn to the right or left, an eye that lies moveless in its socket, hands hanging motionless at the side, and feet unmovable as those of a statue, are the points of excellence, while the child is echoing the senseless table of *a*, *b*, *c*. As a general rule, six months are spent before the twenty-six letters are mastered, though the same child would learn the names of twenty-six playmates or twenty-six playthings in one or two days." *

Objections to this method.

72. The objections to this method are various. We shall state a few of the more prominent. The names of the letters are seldom indicative of the sound. Thus the name sound of *h* (aitch), gives no indication whatever of the real sound of which the character *h* is the sign. And so in regard to all the consonants ; the name of the letter or character is no index to the sound of which the letter is the sign. The name sound of *m* is *em*, but in pronouncing the word me, we never once think of pronouncing it as if it were *emé*. The name sound of *l* is *el*, but *leg* is never pronounced *eleg*. It happens accordingly that the child who has been taught the name sounds, finds himself utterly be-

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* Horace Mann's "Educational Tour," p. 101.

wildered the moment he attempts to combine two letters into one syllable; he has been taught to call the sign *n*, *en*, but the instant the sign *n* takes an *o* after it, it undergoes a strange metamorphosis. It is no longer *en*, but something entirely and essentially different. Thus the reason of the child is outraged; he appears stupid, and the tyranny of school begins. This difficulty, more apparent in the case of the consonants, holds good even in that of the vowels. The name sound of any one of the vowels is not the sound which will meet the child in one case out of ten. Thus the name sound of *a* will guide the child to its correct sound in all those words in which the name sound occurs, but no sooner has such a word as *fat* made its appearance, than the name sound becomes valueless as an exponent of the real sound of the mark *a* in the word *fat*. The name sounds are thus no true guides to the real sounds represented by the letters of the alphabet. But further still, the name sounds of the letters can only be the same in number as the letters. And thus the child is taught to give only twenty-six sounds to the twenty-six letters of the alphabet. Now, any one at all acquainted with the subject is aware that these twenty-six letters are employed to represent far more than twenty-six sounds. The character *a* is said to represent no less than seven distinct sounds. The letters *e*, *g*, *z*, *&c.*, are all employed to represent different sounds according to the position which they occupy in the word. Thus the character *c* in the words *cat* and *city* has two separate and in no way connected sounds. The name sound of the character will give the true sound neither in the one word nor in the other. Thus it happens that by teaching the name sounds of the letters, we are actually limiting the sounds which the child already knows, and we at the same time utterly confuse him, by making the same character the symbol of entirely different sounds. We are not giving him the means of interpreting the signs of sounds—we are causing him simply to repeat sounds with which he is perfectly familiar, and we are accustoming him to associate with these sounds certain characters which, when he comes to read, he will seldom, if ever, find associated with the same sounds. "I am satisfied," says Horace Mann, "that our greatest error in teaching children lies in beginning with the alphabet; in giving them what are called the 'names of the letters,' *a*, *b*, *c, &c.* How can a child, to whom nature offers such a profusion of beautiful objects—of sights, and sounds, and colours—and in whose breast so many social feelings spring up, how can such a child be expected to turn with delight from all these to the stiff and lifeless column of the alphabet? How can one who as yet is utterly incapable of appreciating the remote benefits which in after life reward the acquisition of knowledge, derive any pleasure from an exercise which presents neither beauty to his eye, nor music to his ear, nor sense to his understanding?" We shall now proceed to point out what seems to us the correct method of teaching the child to read; and in doing so we shall endeavour, in all simplicity, to follow the same plan as that by which all the child's early knowledge is acquired.

Mode by which children acquire their knowledge of Sounds, &c.

73. In order the more clearly to show how the correct use of letters, the signs of sounds, may be communicated to a child, we shall make one or two observations on the mode by which the child acquires its knowledge of sounds. For a considerable period after birth the child is employed in making, silently, and, it may be, unknown to itself, observations on the external world. The eye and the sense of touch are being brought into harmony, and are learning mutually to correct the information which each conveys to the mind. By means of these two senses, the child acquires much useful knowledge, before yet it is able to express in articulate words the knowledge so acquired. By degrees, and aided largely by the faculty of imitation, it begins to repeat and give utterance to those sounds which are most familiar to it, and which most interest its affections. Those sounds which are the simplest, and which are most easily pronounced, are first acquired, and thereafter those which are more complex and difficult. This process is so gradual, and so natural, that, after the astonishment produced by the first attempts at articulate speech, it escapes our observation, and we cease to take notice of it. But, all along, the child has been proceeding on a fixed, definite plan—a plan not preconceived and determined on by the child, but followed at nature's own suggestion. The simple has been first acquired, then the more complex. This is the order, and we never find it reversed. Not only does this hold

true of sounds, but equally so of all the child's early acquirements. He is the centre of a small illuminated circle, beyond the circumference of which all is dark and confused. On that circumference he presses constantly, and, making use of his previously acquired knowledge, he advances step by step into that which is unknown. It is this constant discovery of something new, this spirit of finding out the secrets of whatever crosses the path, that gives to the period of childhood that freshness, and that aspect of the wonderful which so strikingly characterize it. Children are like travellers in a new and undiscovered country, where nature exhibits herself in different forms from those to which they have been accustomed. All is wonder, and the merry laugh and joyous shout serve but to indicate some new discovery. It would not be difficult to show that the great family of mankind has been educated in a way exactly analogous to that in which each unit of it has been taught. The fabric of modern science was not reared in a day. By slow and almost imperceptible degrees it has attained its present position. And thus too it was that God wrought in communicating his will to man. All revelation was not given to Adam. For a period of four thousand years God gave line upon line, precept upon precept, first in dim shadowy outline, and then more clearly, as men were able to bear it; and when the revelation was complete, the book was closed, and the voice of God ceased to be heard speaking from heaven.

The same method should be followed in School.

74. Such being the way in which the years of infancy glide by, and such the mode in which the child's knowledge is acquired, it would seem wise, and consistent with right reason, to follow out in school nature's mode of operation. On being introduced into school, the child should not all at once be rudely torn from those objects which have hitherto constituted his little world. The fields, the flowers, his playthings, his games, have been objects of supreme interest to him ; let them be so still. Nothing can be conceived more injurious, and more destructive to the healthy development of the child, both in mind and body, than to confine him for three, or even two dreary hours in the close vitiated atmosphere of a schoolroom, where his lively restless little frame is condemned to

remain in one uneasy posture, and where his mind, that has hitherto followed at will its own promptings, is forced to pore over the senseless *a*, *b*, *c*. The change from home life to school life should be gradual, and such as to introduce the child by easy stages to the new pursuits, which for some years to come, are to occupy his time and attention. Accordingly, mere technical instruction need not be given for some considerable time after the child has entered school. Not that he is to be idle—by no means—he is daily to receive instruction, and that too of a useful kind, directly bearing on his future progress. The master has to give him the power of reading; but it is not enough to give him this power; it must be given in the right way. Let no young teacher smile as he reads these lines, and say to himself what matters it *how* I teach him to read, provided I teach him? It matters a great deal, for possibly the whole future history of the child may depend on how he is taught the first elements of knowledge. A serious thought this—and one which, if duly weighed and considered, would surely tend to dissipate that most deadly and pernicious error, that any man can teach *the child*, whereas it requires a trained master to teach *the boy*. If the statement were reversed, it would be nearer the truth. The highest perfection in teaching is the capability of teaching a child. Instead, therefore, of beginning at once with the dry details of technical knowledge, we would begin, after the example of nature, with what the child knows, and make that the sure and certain stepping-stone to what he does not know. Taking some word familiar to him, such as *pan*, *pot*, &c., we would print it on the black-board, directing the child's attention to every step in the process, and when we had done so, we would proceed to question him about his knowledge of the particular thing, the sign of which we had printed before his eyes. This would at once interest him in the work, would lead him to see that a knowledge of these signs was useful, and would urge him to endeavour to reproduce them. In this way the forms of the characters would become known, and the child would learn to distinguish the one from the other. If, in conjunction with this, there were pieces of wood or card, with the letters printed on them, the children should then be set to pick out those characters which go to form the word in question.* Such an exercise would form a pleasant game, and would consolidate the children's knowledge. In the way we have mentioned the forms and the sounds of the letters may be acquired. With their names we have as yet nothing to do. After giving such a word as *man*, the teacher would cause the child to sound the first part, and thus the sound is acquired, the *an* sounds *an*, what will *fan* sound, the teacher giving the sound of *f*, so with *van*, *pan*, and so on. Such, in general, would be the mode of procedure; but at this point it is necessary to enter somewhat more into details.

Deficiencies of our Alphabet.

75. In order to follow out this constructive method, the first thing to be done is to analyse the language into its simple elementary sounds, and to assign to each sound its representative symbol. It is at this point that the first difficulty in teaching on the phonic method meets us. In order to a perfect alphabet, we ought to have a simple character for every elementary sound. That this is not the case in our language, the following analysis, taken from professor Latham's works, will show:—

Vowel Sounds.	Representative symbol.
Sound of *a* in *fat*	a
a in *fate*	a
a in *far*	a
a in *fall*	a
e in *met*	e
e in *mete*	e
i in *pin*	i
o in *not*	o
o in *note*	o
o in *move*	o
u in *but*	u
u in *bull*	u
Semivowel sounds.	
Sound of *w* in *we*	w
y in *yes*	y
Liquid sounds.	
Sound of *l* in *leg*	l
m in *men*	m

Liquid sounds.	Representative symbol.
Sound of *n* in *not*	n
r in *ran*	r
ng in *king*	ng
Mute sounds.	
Sound of *p* in *pan*	p
b in *bin*	b
f in *fan*	f
v in *van*	v
t in *tin*	t
d in *din*	d
th in *thin*	th
th in *thine*	th
k in *kill*	k
g in *gun*	g
s in *sin*	s
z in *zeal*	z
sh in *shine*	sh
z in *azure*	z

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* A set of cards adapted for this purpose have been issued by Thomas Nelson & Sons, Edinburgh.

From this analysis, it appears that there are thirty-four sounds but only twenty-two simple characters. There is thus a deficiency of twelve characters. On the assumption that the character *a* is assigned as the symbol of the sound of *a* in *fat*, and of that sound alone, we have no character to represent the—

Sound of *a* in *fate*.
a in *father*.
a in *fall*.

In like manner we have no simple character for the following sounds:—

Sound of *e* in *mete*.
o in *note*.
o in *prove*.
u in *bull*.
ng in *king*.
th in *thin*.
th in *thine*.
sh in *shine*.
z in *azure*.

We may suppose, however, that the different sounds represented by *a*, *e*, and *o*, are merely varieties of the same sound, in which case the deficiencies in our alphabet resolve themselves into the following six:—

Sound of *u* in *bull*.
ng in *king*.
th in *thin*.
th in *thine*.
sh in *shine*.
z in *azure*.

But our alphabet is not only defective, it is also redundant and anomalous—redundant, inasmuch as the sounds represented by the characters *c*, *q*, and *x*, can, in all cases, be represented by *k* or *s*, *kw*, and *ks;* and anomalous, inasmuch as the compound sound *dsh* is represented by the simple character *j*. On account of these deficiencies in our alphabet, we are obliged to have recourse to many conventions, which constitute sad stumbling-blocks in the path of the poor child. Thus to indicate to the eye the long sound of *e*, we are compelled sometimes to double the character, as in *meet*, sometimes to add the character at the end of the word, as in *mete;* and sometimes to insert along with it a totally different character, as in *meat*. And so it is with the other vowels. How much easier it would be for a child to learn the interpretation of two or more symbols, than it is to learn all the conventions which the paucity of symbols in our alphabet necessitates. We have no help for it, however, and we must endeavour to smooth over these difficulties in the best way we can.

A few characters to be taught at first. Mode of doing so.

76. Having thus analysed the language into its elementary sounds, and having assigned to each sound its representative sym-

bol, we are in a position to proceed to teach the child. We would assume at first, in order not to distract the child's attention, that the vowel characters have only one sound, and it might be well to fix upon the short sounds thus:—

Sound of *a* in *fat*.
e in *met*.
i in *pin*.
o in *not*.
u in *bull*.

We would select two of these characters, and four or five of the consonants, and confine the child's attention to these until they were mastered. The teacher may adopt various plans in teaching the child the relation subsisting between the symbols thus selected and the sounds which they symbolise:—

1. He may print the symbol on the black-board, calling the child's attention to its form, and causing him to repeat the sound. When the eye has thus learned to distinguish the form, the child may be set to find out similar letters on the lesson boards, or on the cards.

2. Or he may analyse the character into the lines which compose it, showing wherein it differs from other characters. It is composed of a straight line, of a curve, &c., as the case may be. Such an exercise will do much to develop the child's notions of form, and will tend to cultivate the eye in recognising a letter by its form.

3. Or he may print a familiar word, in which the symbol occurs, on the black-board, telling the child what the word is, asking him questions about it, thus arousing his interest, and imprinting on the eye the form of the character.

By any or all of these methods, the child may be taught to recognise these few letters,—from the symbol to enunciate the sound, or from the sound to point out the symbol. The main point is to lead the children to *observe* the symbol, to have its exact form and shape firmly fixed in the mind, so that the eye may at once recognize it.

The characters thus acquired ought to be combined into Words and Sentences.

77. Before proceeding to bring new symbols under the notice of the child, we would combine those thus acquired into short significant words, and these words into short significant sentences, and exercise the child on these in every variety of form, until he is completely master of them. In order to form these significant sentences, a number of little

words, such as *to*, *do*, *up*, *of*, *is*, *my*, should be taught at sight exactly in the same way as the letters were. These little words are almost indispensable in forming short sentences, but it would be useless to attempt to teach them by spelling, inasmuch as each follows a different law from the other. In forming these significant words, it is desirable to present them in similar groups, in order to lead the child to perceive analogies of sound in words. Thus, supposing the child to have learned to recognize the following characters—

o, a, b, f, n, m, p, s, r,

and to have learned at sight the words of two letters above referred to, we might exercise him in some such manner as follows:—

-ox	-ot	r-ot	-at	f-at	r-at
b-ox	n-ot	s-ot	c-at	m-at	s-at
f-ox	p-ot	l-ot	b-at	p-at	&c.

The sound of *-ox* is given at once, then *b-ox* sounds *box*, *f-ox* sounds *fox*, and so on with the others. These words are then arranged into short significant sentences, thus:—

this is not an ox. it is a fox. it is not a rat. it is a cat. this cat is fat. the fat cat is on a mat, &c.

It will be observed that all the foregoing words are significant, and that each sentence has a meaning. This interests the child, and, at the same time, gives the teacher an opportunity of questioning him upon his knowledge of the objects specified in the lesson; and thus each lesson becomes the means, not merely of teaching him to read, but of adding to his stock of ideas.

Mode of teaching the other Vowel Sounds.

78. When the characters first selected have been taught the child in the manner detailed in the preceding paragraphs, the teacher next introduces to him a few new ones, and proceeds in the manner already described, taking care to introduce into each new lesson so many of the characters previously acquired as will prevent the child from forgetting them. In this way the child may speedily, and with comparative ease, acquire all the letters. In the whole process there has been no disturbing

influence; each character was the symbol of one sound, and of one only. But how shall the teacher proceed to deal with the different vowel sounds, with, *e. g.*, the sounds of *a* in *fade*, *fall*, *fan*, &c. How shall he teach the child to tell infallibly as an ordinary reader can at a glance, when the sound should be *short*, *long*, or *open?* It will be found that there is always some convention to indicate to the eye when there is a change of sound. Thus to indicate that *a* is long, we find a mute vowel at the end of the word, as in *fate*. We cannot analyse all these conventions, and point out their laws; we merely call the reader's attention to the fact that they exist, and that they do follow pretty well-defined laws. In order, therefore, to render the child familiar with all these different sounds, we must analyse these conventions, and present them to him in the order of their complexity. The teacher will find this done to his hand in most good primers; it is important, however, that he know well the principles on which these primers are constructed. We may illustrate our meaning by one or two examples. The child is assumed to be familiar with the character *a* as symbolic of the sound of *a* in such a word as *at*. It would be both easy and interesting to show him that final *e mute* lengthens the sound of *a*, thus:—

-at	-ate	-ad	-ade
f-at	f–ate	m-ad	m-ade
m-at	m-ate	f-ad	f-ade
r-at	r-ate	l-ad	l-ade
p-at	p-ate	b-ad	b-ade

So with *o* and *i*, thus:—

-ot	-ote	-in	-ine
n-ot	n-ote	p-in	p-ine
r-ot	r-ote	d-in	d-ine
m-ot	m-ote	f-in	f-ine

These new words would then be combined promiscuously into sentences, and the child would easily by the eye detect and enunciate the correct sound. In an exactly similar way other conventions would be treated—the main point being to introduce these conventions to the notice of the child gradually, one by one, and in such order as will not confuse or bewilder.

We may add one or two additional illustrations of these remarks. Thus in the convention *ea*, it could be easily explained to the child that *ea* sounds *e*. Numerous examples would render this quite familiar to the eye:—

-ea	-eaf	-ear
s-ea	l-eaf	n-ear
p-ea	sh-eaf	f-ear

In teaching the foregoing words, the child is told at once that *ea* sounds *e*, consequently *t-ea* will sound as if it were *te*. The words thus acquired are, along with words previously learned, formed promiscuously into sentences which treat of matters within the range of the child's experience, and thus the convention *ea* becomes firmly fixed in the mind. Again, *ee* sounds *e*, thus:—

-eed	-eek	-eep
n-eed	m-eek	p-eep
f-eed	s-eek	d-eep
s-eed	w-eek	k-eep

The child is taught that *ee* sounds *ē*—then *eed* sounds *ēd*—*n-eed* sounds *nēd*. These examples, which might be multiplied to almost any extent, will show the mode of procedure. It may simply be mentioned that, in carrying out the method, a great deal will depend on having good primers. An earnest teacher ought to make this a matter of great importance. In regard to school-books, it may safely be said that the highest attainment in book-making is to make a book for a child.

Mode of teaching Double Consonantal sounds.

79. The next difficulty which meets the teacher has reference to the double initial or double final consonants. This difficulty may be overcome in the same way as those already specified. These double consonants should be introduced to the child gradually, and in some definite order. When presented the child should be taught to sound them at once. This may be best illustrated by examples, thus:—

	sh	
sh-op	sh-ot	sh-are
	ch	
ch-at	ch-ide	ch-aff

The child is taught the sound of *sh* and *ch* at once, and, accordingly, he finds no difficulty in at once pronouncing *shop*, *shot*, *chat*, *chide*. So with the double final consonant:—

-ast	-est	-ust
p-ast	n-est	d-ust
f-ast	r-est	r-ust
m-ast	w-est	m-ust

The child is taught the sound of *st* at once, and finds it an easy matter to pronounce any of the foregoing words. Easy sentences, treating of familiar things, follow; and reading thus becomes a positive pleasure; for the interest of the child is kept up, his mind is exercised, and each step in the process is sure and certain. When three consonants come together, they ought to be treated in the same way. We need not multiply examples.

Summary of the Method.

80. It may be advantageous to give a brief summary of the method which we have attempted to describe, and this may be conveniently done under the following heads:—

1st. In teaching the alphabet, it is to be remembered that we have to teach children the relation which subsists between a sound and its symbol—from the sound to recognise the symbol, or from the symbol to enunciate the sound.

2nd. This may be most easily and effectively done on the phonic method.

3rd. We analyse the sounds of the English language into their elements, and assign to each sound its representative symbol in so far as we have symbols. The greatest difficulty occurs in the vowel sounds, inasmuch as we have only one symbol to represent the various sounds of each. In this case it would be well, at first, to treat the vowel characters as if they were the representatives each of one sound only, and it might be most convenient to commence with what are termed the short sounds.

4th. We would not teach the child the relation between all these simple sounds and their symbols at once, before combining them so as to form words and sentences.

5th. We would commence with a few of the vowels and consonants, and confine the child's attention first to these until they were mastered. We would teach him these letters in various ways (par. 76).

6th. Having thus taught him the relation between these few sounds and their symbols, and having taught at sight a number of little words of two letters, we would combine these symbols, thus acquired, into short significant words, and these words into sentences, and exercise the child upon them in every possible way.

7th. In subsequent lessons we would introduce gradually, and by a few at a time, the remaining characters; constantly combining them with each other, and with those previously acquired, so as to form words and sentences.

8th. We would now proceed to take up the other vowel sounds, say, the long sounds. It will be found that we have always some convention to indicate to the eye that the sound of the vowel is long (par. 78). We would introduce these conventions gradually and in definite order to the notice of the child.

9th. We would follow the same method with consonants; thus *th* would be taught at once, and exercises upon it given, and so likewise with other double consonants, whether they occur at the beginning or the end of a word.*

EXERCISES.

1. How do you propose to teach the elementary sounds and signs of the English language? State your reasons.
2. Describe one of the following methods of teaching to read, and point out its advantages or disadvantages.
    1. The Alphabetic.
    2. The Phonic Method.
    3. The Look-and-Say Method.
3. Describe accurately the different steps by which children are best taught to learn the sounds of letters.
4. What ought to be the chief aim in drawing up a child's primer?
5. Give specimens of lessons suited to children who are learning the letters.

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* The author can confidently recommend a "First Book," a "Sequel to the First Book," and a "Second Book of Progressive Lessons in Reading," by John Manson, as constructed on the principles detailed in this chapter. They are issued by the publisher of this Manual.

CHAPTER X.—READING.

Reading.

81. In last chapter we pointed out how the sounds of the letters may be attained, and the principles on which these sounds should be combined. We need not repeat what we then advanced. We may simply state that the great object to be kept in view is to accustom the child to the forms of those symbols, the sounds of which are familiar to him; to train the eye to recognize the alphabetic marks employed to symbolize the sounds of familiar words. In carrying out the principles which we endeavoured to lay down, it is extremely desirable that, in every school, one uniform series of school-books were employed, so as to secure that the instruction of the pupils is conducted systematically and in due order. The number of reading-books now in existence renders it comparatively an easy matter for the teacher to make a good selection. We do not propose to name any one series as better than another—that would be an invidious task. We consider it more advisable to offer one or two additional suggestions regarding the method of teaching new words. We can make our meaning more clear by an actual example.

LESSON ON THE SOUND OF *ou* LIKE *ow*.

-our.	-oun.	-out.
-out.	n-oun.	r-out.
ab-out.	s-ound.	tr-out.

In teaching the foregoing, or any similar lesson, the teacher should give first the correct sound of *ou*. After this is done the children are asked to add to it the sound of ***r***, *ou-r* is *our;* the sound of *n*, *ou-n* is *oun;* to prefix to the latter the sound of *n*, *n-oun* is *noun*. So with the other words. When this has been clearly explained, the lesson rings the changes on these words, until the form of them becomes perfectly familiar to the eye. Should any word occur which causes difficulty, recourse should be immediately had to the black-board, where an analysis of it will at once lead the children to acquire its correct sound. The teacher should never rest satisfied with merely telling the child the sound; he should endeavour to make the child learn it for himself. Mere dogmatic teaching is nauseous to children, and, moreover, the habit thus acquired will be of invaluable service in giving the child a key to the pronunciation of similar words. Thus, if the children stumble at such a word as *rout*, instead of giving them the sound, and allowing them to pass on, the teacher should at once analyse it; thus, *ou* sounds *ou*, *ou-t* sounds *out*, then *r-out*, *rout*. Words of more than one syllable should be gradually introduced to the notice of the child, and, for some time, the syllables should be separated by a hyphen: thus, *re-mem-ber*. The sounds of such words can be acquired as easily as that of monosyllables, inasmuch as it requires simply an effort at combination, the separate syllables being already familiar to the child. We may observe that all new and difficult words should be arranged in columns at the head of each lesson, and carefully gone over, before the lesson is read. In addition, some manual of pronunciation should be put into the hands of the children, and a certain portion given out for preparation every day. When it is remembered that the best series of school books can contain only a limited number of the words in our language, the necessity for giving the children such a manual becomes apparent. In order to give some life to exercises of this kind, a word here and there might be selected, and its meaning asked; and thereafter the children might be called upon to construct a short sentence, in order to show that they fully understand the term.

Correct Pronunciation.

82. When once the chief mechanical difficulties in learning to read have been overcome, the main thing to be kept in view is to secure good reading. The first essential requisite in good reading is correct pronunciation. Whilst there are some words in our language the pronunciation of which is not agreed upon, there is sufficient unanimity of opinion regarding the large majority. In so far as the pronunciation of the first class is concerned, the teacher will do well to remember the maxim of Horace—*usus est norma loquendi*—and he will be guided by the preponderance of authority. In regard to the latter, there is no

security that the pupils acquire correct pronunciation, unless the teacher be able to give the example. Accordingly the teacher who is anxious to be in this, as in all things, a model, should strive during his preparatory training to acquire a thorough knowledge of English pronunciation. This can only be done by careful observation of good speakers, or, if need be, by a course of lessons with an accomplished and trust-worthy teacher. Whenever the young teacher hears a good speaker pronounce a word differently from what he has been accustomed to, he ought to note it, and never rest satisfied until he has ascertained the correct pronunciation. He will be amazed at the benefit which such a course will confer, and, in a short time, he will find himself master of the pronunciation of the majority of words. To teach children correct orthoepy, it is therefore absolutely indispensable that the teacher be himself familiar with the subject. Assuming him to be so, the only effectual method by which he can secure good pronunciation among his pupils, is to insist that they pronounce every word correctly, from the very day they enter school. There is no royal road to this acquisition—care, close attention, and constant correction when necessary, on the part of the master, will alone accomplish the desired result. He must, on no account, allow a wrong pronunciation to pass unchecked; the pupil who made the mistake must be taught to pronounce the word correctly, and thereafter the whole class should pronounce it simultaneously. In this way, and in this way alone, will the habit of correct pronunciation be acquired. Only constant repetition of those words which are apt to be mispronounced will lodge in the memory their true sound. Various districts of country have peculiarities of pronunciation, and these peculiarities refer chiefly to the sounds of the vowels. In some districts there is a constant tendency to shorten the long vowels; and in others to lengthen the short ones. Thus, for example, the word *thrōne* is pronounced as if it were *thrŏne*, while *shŏne* is pronounced as if it were *shōne*. Again, we find in some parts of the country a tendency to pronounce *a* in all cases as if it had what is called the shut sound, as in *far*. Thus *shall* is called *shâll*, *water*, *wâter*, *call*, *câll*, *&c.* The vowel *i* is also apt to be mispronounced. In the Highlands of Scotland it is almost invariably made long in all words. Thus *his* becomes *hīs*, *is*, *īs, &c.* Without waiting to point out all the peculiarities of pronunciation which characterize various districts, we advise the teacher, whenever he finds himself located in a particular parish, to observe carefully the prevalent peculiarities; and, when he has done so, vigorously to set himself to correct them among his pupils. This, however, must be done with caution, and without any parade of ostentation; for, if the teacher, with the view of showing off his own acquirements, holds up to ridicule any local peculiarities, he will be sure to enlist the sympathies of the neighbourhood against himself, and will find his efforts at improvement thwarted at every step. We may remark further on this head, that too much refinement of pronunciation is to be as sedulously avoided as too much vulgarity. Some, from an over refinement in this matter, pronounce such words as *fine*, and *knowledge*, as if the *i* and *o* were half-a-yard in length. Such mispronunciations are simply ridiculous, and justly expose the man who has recourse to them to the charge of affectation. Let the teacher carefully avoid all such extremes.

Distinct Enunciation.

83. A second essential of good reading is distinct enunciation. Not only must the words in a given passage be correctly pronounced, they must be clearly and distinctly enunciated; for indistinct enunciation will completely mar what otherwise would be good reading. In some cases this want of distinct clear utterance arises from some defect in the vocal organs—an inability to pronounce certain letters; but, in the vast majority of cases, it is due to habits acquired in youth, but which might have been prevented by careful and judicious training. When the fault is owing to some natural defect, the teacher cannot be expected to eradicate it; but, even in such cases he may do essential service, by patiently showing the child the point wherein the fault lies: by carefully exhibiting and causing the child to imitate the correct position of the vocal organs when framing any particular sound; and by encouraging and smiling on efforts at improvement. Thus the habits of lisping, and of stammering, so fatal to the success of a public speaker, may, to a certain extent, be overcome. The first of these defects generally arises from a wrong position of the tongue in framing the sibilant letters. By pains and patience the child may be trained

to frame these letters aright, whereas if the habit of mispronunciation is allowed to grow, it will soon acquire such mastery as to render its eradication impossible. Stammering is almost invariably connected with the dental letters, and arises not so much from a mal-formation of the organs, as from a nervous weakness in at once framing such letters as *t*, *d*, *&c.* In this case, what is needed is to endeavour, by frequent practice, to give the child such confidence in himself as will enable him to frame these letters without hesitation. A very good exercise for this purpose, consists in selecting words, commencing with a vowel sound, but in which the difficult letters occur accidentally, as it were, and causing the child to repeat these rapidly. It will generally be found that he can repeat them without any difficulty whatever; and he thus comes to see that the pronunciation of the letters in question is attainable. But, as we have already observed, indistinct ennunciation arises in most cases from carelessness. To prevent it, the surest method is to cause each word to be repeated separately, and as if it stood alone. Each word so pronounced should have every syllable and every letter, except the silent ones, clearly and fully enunciated. There should be no clipping or mincing of the word. The mouth should be well opened, and care taken that the sound flows from the *os rotundum.* There seems to be a constant tendency to contraction in the historical development of languages; and this tendency, which, to a certain extent is natural, is manifested in every-day conversation. Thus we see a constant inclination to join certain words into one, to omit or slur over small words, and to leave out some syllables in certain classes of words. When we have one word ending, and another beginning with a vowel, it is a common practice to elide the final vowel of the first word, and to run the two words into one. Thus such an expression as "halo of glory" is apt to be pronounced as if it were "hāl of glory." Again, when one word ends and another begins with the same consonant, the tendency is strong to leave out one of the letters; thus the expression "Moses' sake" becomes "Moses' 'ake." In some parts of Scotland, whenever the sound of *c* is followed by such a sound as that of *t*, as in *acts*, *object*, *&c.*, the *t* is apt to be omitted, and the words pronounced as if they were *acs*, *objec*, *&c.* Again, such words as *and*, *to*, *the*, *an*, and so on, are very often slurred over in a way which destroys the meaning of the whole sentence in which they occur. And in certain classes of words—in such words, for example, as *particularly*, *ordinarily*, *differently*, *&c.*, there is a constant tendency to leave out one or more of the syllables, and to pronounce them as if they were *particlarly*, *ordnarly*, *difrently*. These illustrations will serve to show some of the points in which errors of enunciation are likely to arise. In order to obviate them, the teacher, as we have said, must cause each word, and each letter of each word, to be pronounced distinctly, and as if it stood alone. This will effectually prevent the words from being run into one another. Care must also be taken to lay sufficient stress upon the consonants, especially where two immediately follow each other. In the case of words which, though different in meaning, are nearly allied in sound, very great attention will be necessary to give each word its own distinct sound. Simultaneous reading, where each word is pronounced separately, will assist the teacher in securing clear enunciation, but individual faults can never be corrected in the mass, and in addition to simultaneous reading, there must be the individualizing of each child, and a special dealing with the special peculiarities of each. Thus slow, distinct reading will become the habit, and there will be laid the best possible foundation for elocution.

Fluency.

84. A third and essential requisite of good reading is fluency. The words must not only be correctly pronounced and distinctly enunciated, but they must also follow each other easily and without effort. The slightest hesitation in pronouncing any one word will effectually mar the reading, and render it unpleasant. In order to read fluently, it is obviously necessary that the pupils know the sound of each word in the passage to be read, the relation between the various parts of each sentence, and between the various sentences that go to compose the passage. Unless these things are understood, there is no certainty that any passage will be read with the requisite degree of fluency. Knowing thus what is necessary to form a fluent reader, the teacher has himself to blame if his scholars do not acquire the habit of which we are speaking. We would throw out the following suggestions under this head. The lesson should be first read over, in order to see that the pupils are familiar with

the forms and the sounds of the words. A word about which any difficulty has been experienced should be carefully explained, and not a step in advance taken, until the sound of each word is thoroughly acquired; when this has been done, the meaning and scope of the whole passage should be unfolded, the connection of the various paragraphs, and of the sentences with each other, should be pointed out—in short, the substance of the lesson should be analysed. When the whole lesson for the day has thus been gone over, the pupils should be made to read it once more with the express view of securing fluency. The master should himself read part of it, as a pattern for the pupils to imitate, but should carefully abstain from reading with the pupils. When they are reading, his duty is to watch and observe what is being done, so that, when the reading is over, he may point out faults, and make such observations as he may deem necessary. It is desirable not to interrupt the pupil when reading; for interruptions only serve to confuse and bewilder him. Very frequently the pupils are allowed to read only one sentence at a time. Such a plan will enable the teacher to overtake, it may be, all the pupils in a single lesson; but it will never secure fluency. It is a common thing to find one idea running through a whole passage, and any one sentence taken out will destroy the meaning of the whole. In such cases, a break at the end of each sentence tends to mar the feeling of sequence in the passage, and it will never be read by different individuals so well as by one. We would accordingly advise the teacher, when he aims at securing fluency of expression, to allow each pupil to read a whole paragraph. In this way he will learn easily to catch up the sequence of ideas, and will be more likely to read with ease than if he were confined to one sentence. It is to be remembered that what we are now aiming to secure is not so much the mere power to read as the power to read fluently; and in this latter case it is not at all necessary that each pupil should read a certain amount every day. Still further to encourage the acquisition of this important requisite of good reading, the teacher might occasionally request the pupils to bring with them, from home, any book in which they were interested, and from which they would wish to read certain passages. This would have a double benefit; it would, in the first place, encourage the acquisition of the faculty of which we are speaking; and, in the second place, it would give the teacher a pretty correct estimate of the tastes and inclinations of his pupils, and thus enable him to deal with each according to his requirements. It would be found that the books thus brought from home differed, in some important respects, from those used in school; but, amidst a great diversity in the books themselves, they would be found to contain one common quality. They would all be interesting, and many might be amusing. Now this fact, which we have seen tested by experience, ought to give us some hints on the kind of books to be used in teaching children to acquire the higher attributes of good reading. At present most of our collections consist of long lessons on abstruse parts of Chemistry, Botany, Astronomy, and such-like things, intermingled with short pieces of execrable poetry. The lesson-book has ceased to be used as a book for teaching to read—reading is an acquisition too unimportant for our modern intellectual advancement. The imagination, the feelings, the emotions of the child must not be cultivated. All our efforts must be expended on the mere intellect—intellectual teaching, intellectual instruction, is the only thing which will satisfy the enlightenment of this age. And, accordingly, any one who examines our reading-books, must be struck with this preponderance in them of the merely scientific and intellectual—the continual presence of the *utile*, with scarcely an appearance of the *dulce*. And any one who has in any faint measure but tried to fathom the depths of a child's spirit, who has learned in any degree to sympathize with "The bonny, bonny bairn" who builds his airy castle in the ascending flame, cannot but feel sad to think of the child's being condemned to pore over such dry, miserable stuff as many of these lesson-books contain. The young teacher should encourage the reading of those grand old stories which have been the delight of children for many generations. Let him not banish from school good old John Bunyan, with his Pilgrim, and the crowd of incidents which so interest and arrest children; nor "Robinson Crusoe and his man Friday;" nay, let him not fear to encourage the reading of the simply amusing or ludicrous. Those whose tastes lie in that direction will read such things, whether he will or not; and if the teacher, from an inability to sympathize with such tastes, frowns upon them as dangerous or vitiated, he will assuredly do no good, but may do much harm. Let him guide, lead, and train into what is right. We believe that the practice of allowing the children to select some books familiar to them, from which to read, will be attended with the best effects; and we would strongly advise the young teacher to give the practice a trial, and we are convinced he will speedily find a marvellous improvement in the reading of his pupils.

Expression.

85. A fourth and essential requisite of good reading is expression, by which we mean that due modulation, and that inflexion of the voice, which serve to bring out the exact meaning of the author. Many rules are laid down in treatises on elocution regarding the management of the voice—rules very frequently more honoured in the breach than in the observance; for they generally proceed on the assumption that expressive reading is merely a mechanical exercise, and not dependent on the understanding and the taste. Most of these rules are more fitted to mislead than to guide the child. The same observation may be made regarding those artificial marks sometimes employed to indicate the inflexions of the voice. Their position is often arbitrary, and depends upon the view which the compiler of the book takes of the meaning of any particular passage. No reason is assigned for their position; the understanding of the child is not exercised, and accordingly when he comes to read without these finger-posts to guide him, he generally makes sad blunders. The reason is obvious—the reading has been a mere mechanical, not an intellectual exercise. Many of the remarks we made under the last head apply with equal force to the one now under consideration. The first element in good expressive reading is a thorough understanding of the spirit and scope of the passage. No one can have failed to notice the variety of the tones in a child's voice when he is speaking about his playthings or describing anything that greatly interests him. In such a case there is no drawling of the voice, no uniform dead monotony, or sing-song tone, like the dirge chaunts of the Indians. All is variety—every tone is musical—the accents all fall on the proper words, and the child is unconsciously an elocutionist. But no sooner does he enter school than his connection with the external world is rudely

snapped asunder. He is doomed to pore over uninteresting narratives, and dry accounts of science; many of which are entirely beyond his experience. So it happens that the music of the tones, the due intonation of the voice, and the whole expression are cast aside, and in their place springs up a dull monotonous style of reading, which has the single advantage of being an excellent soporific. There can be no expressive reading where the passage is not thoroughly understood; unless the very spirit of the writer has been caught up, unless the reader has been able to enter into the writer's position, to see as he saw, to feel as he felt, to sympathize as he sympathized, or to hate as he hated, there will be no certainty that the reading will bring out in full relief those parts that demand prominence, and put in the back-ground the less important parts. The lights and shades of a musical composition can never be properly brought out but by one who has entered into the very spirit of the composition. A true painter will, from his knowledge of the laws of perspective, and from his thorough appreciation of the congruous in nature, instinctively bring into the foreground that which he intends to produce an impression; and, with equal intuition, will he throw into the dim shadowy back-ground those things which, while necessary to the painting as a whole, do not form its characteristic features. So it is in reading. The design of the whole passage, the effect to be gained by certain sentences in it, and by certain words in each sentence, must be clearly understood, in order to its being read expressively. And it is also to be observed that different classes of minds will read the same passage in styles very different. Thus a boy who has a strong sense of the ludicrous, will read a humorous passage with far more effect than will a boy in whom the sense of the ludicrous is not so strongly developed. A gentle, unobtrusive boy who loves meditation, will be able to appreciate the quiet beauties of Cowper, and to translate them into expressive articulate words; while one, in whom the manlier and more active feelings predominate, will instinctively be drawn to the stirring incidents, and glowing pictures of such a writer as Scott. In order, therefore, to secure expressive reading, the teacher will require to see that the class thoroughly understand the passage, and that at first the pupils read passages congenial to their tastes. When once they have learned to read some pieces well, and with due expression, it will be comparatively an easy task to lead them to read most passages well and expressively. Another thing to be noticed in connection with this subject is, that good or bad reading may be acquired largely by imitation. Hence, the master should be able to give, in all cases, the example which his pupils are to follow. Before a class commences to read any particular passage, the master should himself read it, and carefully point out the reasons for the various inflexions which he has employed. After he has done this, the pupils should then read it, first simultaneously, while the master listens, and notices, for the purpose of correcting, the errors that may have been made. After it has been read simultaneously, a few individuals should be selected in order to read it one by one. And here, again, it may be remarked that it is by no means necessary that each pupil read a certain portion every day. It is a common plan to begin the reading lesson with the pupil at the top of the class, and go right through to the end, each one reading a sentence only, be it long or short. Such a plan will not produce good or effective reading. On the contrary, nothing tends more to produce dull, monotonous reading than such a method. Some teachers have recourse to the plan, from the idea that they have not done their duty unless each child has read a certain portion. This, however, may be accomplished by causing the class to read the whole passage simultaneously, but, in order to secure that each individual is making progress, a few, as we have said, should be singled out during the course of each lesson, and made to read more or less, as circumstances require. While these are reading, the whole class are benefiting ; and if the master only make a point of thus singling out different individuals on successive days, he will find that he can accomplish much greater good than by allowing each child to read a short sentence and then remain idle until his turn come again. In order to accomplish the end proposed, it is necessary to set aside a special time each day to be exclusively devoted to reading. Too often the reading is pushed into a corner, as if it were unworthy of the same time and care as the other lessons. This is to be deprecated, inasmuch as it leads the children to imagine that it signifies little how they read, provided they can stand an examination on what they read. Good reading will never be secured in this way. It is only when a special time is assigned to it, when the master is seen to be in earnest about it, that the pupils will give the attention and labour which are absolutely necessary in order to arrive at the accomplishment of which we speak.

Recitation.

86. Almost all passages, to be read or recited well, require to be accompanied with suitable action and gestures. This is very much overlooked in most elementary schools. We have, no doubt, on examination days, some recitations, but they are so manifestly got up for the occasion, and the unfortunate reciter labours under such evident danger of twisting his hands and limbs to pieces, that they form a complete burlesque, and bring this kind of exhibition into disrepute. But still recitation, accompanied with appropriate action, should form a part of reading. This may be best attained by causing the pupils to commit to memory some favourite passage, and then asking them to recite it before the whole school. Indeed, the committal to memory of some of the finer passages of poetry, occurring in the reading-book, is of itself eminently beneficial. It strengthens the memory, and at the same time fills the mind with some of the finest thoughts in our language. It is a question whether, in our efforts after what is called intellectual education, we have not overlooked some things which are in themselves important, and others which served a better purpose in the mental development of children than much of what is now deemed necessary in elementary education. For our own part, we should infinitely prefer to see a child engaged in committing to memory some pieces of our rich poetic literature, than in stuffing his young brain with the names of the various bones which go to compose the human skeleton. But letting that pass, we would remark that each pupil, according to his ability, should commit to memory a certain portion of poetry every week. We say poetry, inasmuch as its very construction renders the task of committing it comparatively an easy one. The passages at first need not be long—a few stanzas according to the age and proficiency of the child, to be increased as he is able to accomplish more. These passages need not be committed unless they are afterwards

recited to the master. A certain hour of some one day will, therefore, be set aside for this work, and if this is done, the master will find no difficulty in having these recitations thoroughly got up by his pupils; and they will form a capital exercise in clear expressive reading, with the additional advantage of enabling the master to attend to gesture and position better than in the ordinary reading lesson. When the eye is obliged to follow the print very closely, as it must in the reading lesson, the attitude and position necessarily become stiff and constrained; but when the book is laid aside, and when the eye is at liberty to watch the effects which the recitation is producing on the hearers, the whole body can be brought into thorough subjection to the will, and made to contribute most materially to the general effect. The following well-known passage from the myriad-minded Shakespere contains the essence of the philosophy of action, and may appropriately conclude this paragraph:—

"Speak the speech, I pray you, as I pronounced it to you, trippingly on the tongue; but if you mouth it, as many of our players do, I had as lief the town-crier spoke my lines; nor do not saw the air too much with your hand; but use all gently; for in the very torrent, tempest, and (as I may say) whirlwind of your passion, you must acquire and beget a temperance that may give it smoothness. Be not too tame neither, but let your own discretion be your tutor; suit the action to the word, the word to the action; with this special observance, that you o'erstep not the modesty of nature; for anything so overdone is from the purpose of playing; whose end, both at the first, and now, was, and is, to hold, as 'twere, the mirror up to nature; to show virtue her own feature, scorn her own image, and the very age and body of the time, his form and pressure."

EXERCISES.

1. Describe accurately the different steps by which children are best taught to learn the sounds of letters in monosyllabic words.
2. After the mechanical difficulties of reading have been overcome, what are the difficulties which the elementary teacher has chiefly to contend with in the manner of reading; and how may they best be overcome?
3. What methods would you adopt to secure fluency, correctness, distinctness, and expression?

4. On what principles should elementary reading-books be constructed? Give a specimen lesson adapted to a first, second, third, and fourth reading-book respectively.
5. What time should be devoted exclusively to reading in each class? (*vide* Time Table.)
6. What are the benefits arising from causing children to commit to memory passages of poetry?
7. Describe such apparatus, and the general characteristics of such a series of reading-books as you would require to teach children to read.

CHAPTER XI.—EXAMINATION.

General Principles.

87. The information which children derive, even from the most carefully prepared series of school-books, ought to bear, in every rightly-conducted school, a very small proportion to that which they obtain from the well-stored mind of the master. Not only is this the case, even the information contained in the books will not take its full effect on their minds, unless it has been thoroughly wrought in by close and rigid examination. In order, therefore, to secure that the lessons are understood, the master must, from the youngest class to the highest, institute a searching analysis of what has been read. In the younger classes this examination will be mainly confined to questions which exercise the observing faculties and the simplest ideas of relation; but as the pupils advance in years and in understanding, the analysis will embrace questions tending to cultivate the reasoning powers and the imagination, and at a still later period those of abstraction and generalization. We do not mean that the teacher should frame his questions with the special view of cultivating these faculties in their due order; we believe this to be impossible; for in every lesson there will necessarily be questions which appeal more or less to all these various faculties. The teacher, however, who is acquainted with the order in which these faculties develop themselves, will, from this knowledge, derive many valuable rules to guide him in examining a class on any given lesson.

Thus, for example, with a class of very young children, in whose lesson the names of the sun and moon occurred, he would never once dream of attempting to explain the way in which these bodies are related to each other; or, should the seasons be mentioned, he would confine himself to a few general questions on the characteristics of each, without entering on an explanation of the causes which produce them. We have already, in a previous chapter, made some general observations on the subject of questioning; and we need not again recur to it, except for the purpose of stating that, in questioning a class upon the subject-matter of a lesson, the teacher should employ every opportunity of deepening, extending, and consolidating the knowledge of the subject which the children may have acquired from the reading-book or from other sources. In order to illustrate our meaning, we shall give one or two examples of lessons suited to different stages of advancement, with brief notes of examination on each; reserving the full discussion of notes of lessons for a separate chapter.

Junior Classes.

88. EXAMPLE I.

> the rat sat on a mat. the fat cat ran to the rat. the rat ran in-to the box. can the cat go in-to the box? no, the fat cat can-not go in-to the box.

On the assumption that the children are familiar with the forms of the words, and can read the lesson with tolerable fluency, we would proceed to question them on its meaning. And here we would remark that, even at this early stage, it is desirable to lead the children to analyse the sentences. We need say nothing to them of the term analysis—it will be learned in time enough.

EXAMINATION.

What two animals does your lesson speak about? Have you ever seen a rat? A cat? Which is larger? Which is stronger? Where was the rat sitting? What was it doing on the mat? What was sitting on the mat? What is a mat? Where do you see it? What is its use? If a little boy got his shoes dirtied, what should he do before going into the house? The mat is used for—*wiping the shoes.* The rat sat on—*a mat.* Was that its own place? Where should it have been? As it was sitting on the mat who saw it? What kind of cat was it? And what did the fat cat do? The fat cat ran—*to the rat.* (Describe the running—show how the cat would sit and watch, and then bound forward. This will amuse and interest the children, and keep them fresh for the remainder of the examination.) Do you think the rat would wait on the mat? What would it do? It would—*run away*, run away to—*its hole.* Where did it run? What is a box? What made of? How would it get into the box? What must have been in the box? You see then the rat ran into—*the box*, through—*a hole.* Did the cat go into the box? Why not? The hole would not let in—*the cat*, but it let in—*the rat.* Would the cat go away from the box? What would it do? It would—*watch*, beside the—*box,* to see if the rat—*would come out*, &c.

Many other questions might be put, anecdotes told, and such interest thrown into the lesson, that the children would be sorry when it was over. We have thrown in a few ellipses in the foregoing examination—the words *in italics* being supposed to be filled in by the children.

EXAMPLE II.

> Look at the lion. He is a fierce, cruel beast. He is very strong and very terrible. He has strong limbs; a long, flowing, shaggy mane; and a long tail. His roar is very fearful and very terrible; it is like thunder. The lion is often named the king of beasts. The lion is sly; he is a beast of the cat kind, and all beasts of the cat kind are sly and cunning. He creeps behind a bush or a tree, then crouches down and springs suddenly on his prey, &c.

Such a lesson as this should be accompanied if possible with a drawing of the animal described; for words, however clear and explicit, will convey to the minds of children but a faint idea of the form and shape of an animal which they have never seen. The first sentence pre-supposes that the children have a picture before them. In lessons of this kind, the two main points to be attended to are—that the children know the meaning of the terms used, and then their application in the particular passage. We shall endeavour to indicate these points in the following sketch :—

EXAMINATION.

What have you been reading about? Well, here is a picture of the lion. Have any of you ever seen one? What kind of beast is he? He is—*fierce and cruel.* What is the meaning of fierce? of cruel? (If no answer is given, take some illustration to assist them in bringing out the meaning. In all probability they have a very good conception of the meaning, but want words to express it. Contrast is often useful in assisting them in this respect; thus, Would you call the sheep a fierce and cruel beast? What would you call it —*mild and gentle.* Now, is the lion like the sheep? He is not—*mild and gentle.*) If I were going to describe a boy to you, so that you would know him when you saw him—would I say that he was fierce and cruel? I would tell you what he—*was like.* I might tell you what kind of clothes he—*had on*, &c., but I would not say that he was—*fierce and cruel.* Now, then, what would you use these words for? (to tell his disposition, or his character.) When I say that the lion is fierce and cruel, what then do I describe? (his character.) (In this way the right application of these terms is acquired, and the best possible foundation laid for the correct use of language.) Does your lesson say anything else about the character of the lion? (Such a question will at once show if your meaning in the preceding examination has been understood. If the children answer that he is sly and cunning, you may rest assured that they have followed you.) Yes, he is—*sly.* Like what other animals? What is a mark of all animals of the cat kind? They are—*sly and cunning.* How do you know that he is sly and cunning? Why is he said to creep? Have you ever seen an animal of the same kind do the same thing?—What animal? When? When he gets behind a tree what does he do? (Show this by an appropriate action.) How long will he crouch; and when some animal comes up what does the lion do? How does he spring? Why suddenly? What on? &c.

In the same manner the terms employed to describe the form, the parts, and the roar of the lion may be gone over; and if this be done with life, with appropriate action, and with apt illustrations, the children will follow the course of the examination with intense interest. We have seen two hundred little children so excited by a lesson of this sort, graphically given, that they would scarcely have been surprised had they seen the lion spring on its prey, so real had the master made the picture.

Under this same division we shall give a short poetical extract, and make one or two observations on the mode in which it should be treated.

EXAMPLE III.

Hark the mower's whistling blade,
How steadily he mows;
The grass is heaped, the daisies fade,
All scattered as he goes.

So Time, as with a stern delight
'Mid human havoc towers,
And sweeps resistless in his might
Kingdoms as grass and flowers.

The flowers of life may bloom and fade,
But He, in whom I trust,
Though cold, and in my grave-clothes laid,
Can raise me from the dust.

There are in this passage three distinct parts—the natural picture, drawn from a very common incident—the analogy between this picture and Time—and the contrast between the fading flowers and the wreck of kingdoms, and the Immortal who looks on; and these three must be gone over in their order. Notice first the picture—What is a mower? what does he do? Why is his blade called a *whistling blade?* Note the second line. What is meant by mowing *steadily?* Show the effect—the grass is heaped—cannot resist—it falls before the blade. Note also the particular term *daisies*,—it makes the picture more graphic. The poet does not content himself with the somewhat general term *grass*, but he singles out the *daisies*,—why? They are beautiful objects of interest to children, and this one word vivifies the whole picture—although beautiful, they must fall before the "whistling blade." Similar instances of the use of particular terms may be noticed—*e.g.* our Saviour's allusions to the "lilies," the "ravens," &c. Milton's description of Satan,—"Sat like a cormorant." Notice, secondly, the analogy. What is compared to the mower? Why is Time so compared? What does the mower do? and what Time? (*mows. sweeps.*) What sound does the blade give? What clause in the second part corresponds to *whistling?* (as with a stern delight). The blade seems to—*whistle*, so Time seems to feel—*a stern delight.* The blade mows among—*grass and daisies*, so Time towers among—*human havoc.* Note the exact application of *human*, that it means—*havoc produced among men*, and not—*havoc caused by men.* How does the mower move? (steadily,) how does Time? (resistless in his might.) Bring out also the effects produced by each, and show how Time has swept kingdoms, by instancing some. Notice, thirdly, the contrast. —I—any one, who saw and observed the things mentioned in the two previous stanzas—will not thus perish—I may be cold, and laid in grave-clothes, but still He, in whom I trust, can raise me. Compare Job xix. 25, 26; John xi. 25, 26. With a class somewhat advanced compare also such a passage as the following:—

> "'Tis night, and the landscape is lovely no more;
> I mourn, but, ye woodlands, I mourn not for you;
> For morn is approaching, your charms to restore,
> Perfumed with fresh fragrance, and glittering with dew;
> Nor yet for the ravage of winter I mourn;
> Kind nature the embryo blossom will save,
> But when shall spring visit the mouldering urn!
> O, when shall it dawn on the night of the grave!"

Compare also the whole of the eighth paraphrase.

Senior Classes.

89. In examining the senior classes, the same *kind* of questions should be put as in examining the junior; the main difference in the questions should be one of *degree.* Both in prose and in poetical extracts, the terms employed must be carefully explained, cor-

rect definitions given, the figurative use of words pointed out, and the aim and scope of the whole passage laid bare by a skilful analysis of all its parts. The information contained in the passage should be largely supplemented by suggestions and ellipses on the part of the master, and, as far as possible, each lesson should be complete in itself. Whatever be the particular aspect of a subject which the lesson treats of, that aspect should be a whole. If the lesson, for example, regards a leaf, the form, structure, and use of leaves should be brought out, and their relation to the trees on which they grow. In this way, each part of any given subject will fall into its proper place, and the mind will acquire the important habit of grouping things together by natural principles of association, and of calling them up when necessary. The derivation and formation of words, the changes which they have undergone both in form and meaning, and their composition, should be noticed and illustrated. In poetical extracts the figures and the imagery employed should be dwelt upon, the use and application of them should be shown by examples, and care taken to foster the habit of a rigid adherence to the correct use of language. In advanced classes, the reasoning of the author should be examined, the premises on which he builds noticed, and the conclusions drawn from these premises tested. In this way, fallacies in argument may be detected, and the best possible foundation laid for a thorough study of logic; and all this without having recourse to the mystical jargon with which professed treatises on logic too frequently perplex the young student. It need scarcely be remarked that no false sentiment should pass unchallenged, come from whatever source it may; the morbid sentimentalism which disfigures too much of our literature should be sternly exposed, and every effort made to enlist the sympathies and the affections of the young on the side of what is true and honest and of good report. We cannot give full illustrations of all these remarks; we shall content ourselves with one or two meagre outlines.

EXAMPLE I.

The mariner's compass is a wonderful, though a simple instrument. It consists of nothing more than a needle and a card; and yet it enables the mariner to traverse

> the pathless sea with perfect confidence. The needle, being converted into a magnet, or loadstone, which is easily done—and being balanced on a point above the centre of the card—always points to the north; and the sailor has therefore only to examine the card, on which the cardinal points—east, west, north, and south—are marked, to know in what direction he is steering.*

In conducting an examination on such a passage as this (which we have selected on account of its succinctness), it would be well to have either a real compass, or a representation of it. If, however, the teacher has neither, he can easily have recourse to the black-board, which will enable him to give the pupils a tolerably correct idea of the instrument. The leading points to be brought out are the two parts of the instrument, the relation in which they stand to each other, and the use which the sailor makes of it. It consists of a needle and card—an ordinary needle would not suit—why?—it must point to the north, which a common needle does not do. Hence what must be done to the needle? How is this done? (The lesson does not state this; the teacher must, therefore, bring it out by illustration and suggestion.) We have now the needle prepared.—What else does the lesson say is necessary? What kind of card? What is written on it? But will it do to lay the needle on the card? Why not? What must be done? Thus we train out the two parts, and their relation to each other. Then what does the sailor do? How does he know his direction? (This can be illustrated on the black-board.) More particularly, what is the mariner's compass said to be?—why is it called a *compass?* Why the *mariner's compass?* What is a mariner? What other name is given to him in the passage? He is called a mariner because —*he is engaged on the sea*, and a sailor because—*he sails on the sea*. How do you know that the compass is a *simple instrument?* that it is a *wonderful instrument?* Why is the sea called *pathless?* What do you mean by a *path?* (In this way the exact meaning of the word is brought out, and the children can, in future, apply it correctly.) The derivation of some of the words might also be pointed out, but of this more anon.

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* M'Culloch's Series, p. 43.

EXAMPLE II.

> It has been already mentioned that water exposed to the air is gradually converted into a state of vapour, which, on account of its specific levity, ascends into the atmosphere. This vapour presents itself in various forms. When the air holds it in solution it is invisible, just as salt dissolved in water is invisible; but when the vapour condenses, the watery particles become visible either in the form of clouds and mists suspended in the atmosphere, or in that of rain, dew, snow and hail, falling to the ground.*

Substance of lesson (to be given by the pupils in answer to questions by the teacher).

1. Water exposed to the air is gradually converted into vapour.
2. On account of its lightness the vapour ascends into the atmosphere, where
3. It assumes different forms, which are visible or invisible.
    - (*a*) Invisible when the air holds it in solution.
    - (*b*) Visible when it is condensed so as to form clouds, rain, dew, &c.

The above may be obtained from the pupils in something like the following manner:—What follows on water being exposed to the air? Is this vapour of the same weight, lighter, or heavier, than the air? What is the consequence? What forms does it then assume? When is it invisible? What is meant by the air holding it in solution? Can you give an illustration of that meaning? Because the clouds and mists are easily moved about by the currents of the air, what are they said to be? When does the vapour assume the form of clouds and mists? When does it assume the form of rain, snow, hail, and dew? Such an examination as the above will enable the teacher to form an idea as to how much of the lesson is understood by the pupils, and, if time permit, the facts of a previous lesson on evaporation (pp. 212, 213), may be revised and used in explanation of the statements made in this lesson. This will train the pupils to use the information they possess, and to realise the truth, " knowledge is power." The analysis may be thus continued. How is water converted into vapour? How does the air convert the water into vapour? What is the name given to this process? On what does the amount of evaporation depend? &c.

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* M'Culloch's Course of Reading, p. 249.

EXAMPLE III.

> While a plant differs from an animal in exhibiting no signs of perception or voluntary motion, and in possessing no stomach to serve as a receptacle for its food, there exists between them a close analogy both of parts and functions. The stem and branches act as a framework or skeleton for the support and protection of the parts necessary to the life of the individual. The root serves the purpose of a stomach by imbibing nutritious juices from the soil, and thus supplying the plant with materials for its growth. The sap or circulating fluid, composed of water, holding in solution saline, extractive, mucilaginous, saccharine, and other soluble substances, corresponds in its office to the blood of animals; and in its passage through the leaves, which may be termed the lungs of a plant, it is fully exposed to the agency of light and air, and experiences a change by which it is more completely adapted to the wants of the vegetable economy.*

Subject of Lesson.—Analogy between a plant and an animal. Before noticing the analogy, it is necessary to dispose of the points of difference.

AN ANIMAL	A PLANT
has	*has not*
Perception,	Perception,
Voluntary Motion,	Voluntary Motion,
A Receptacle for food.	A Receptacle for food.

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* M'Culloch's Course of Reading, p. 126.

What is meant by perception? If I prick you with a pin, what do you feel? What sensation have you? Now, do you think a plant feels pain like you? It has neither the sensation nor the perception of *pain*. What is meant by motion? What by voluntary motion? Did you ever see a plant moving? (Some may answer yes, which will furnish an opportunity of bringing out clearly the meaning of the term *voluntary motion.*) In the same way notice the difference in respect of stomach. An animal then differs from a plant, in that the former has—*perception*, *voluntary motion*, and a *receptacle for its food;* while the latter—*has not.*

2. Analogy both of parts and functions.

1st.—Of Parts.

- (*a*) An animal has a framework or skeleton; a plant has also a framework in the stem and branches.
- (*b*) An animal has lungs; a plant has also lungs in the shape of leaves.

2nd.—Of Functions.

- (*a*) In both, the framework supports and protects the parts necessary to the life of the individual.
- (*b*) In the plant, the root serves the same purpose as the stomach in the animal.
- (*c*) The sap of the plant corresponds in its office to the blood of animals.
- (*d*) As the blood of animals is exposed to the action of the air in its passage through the lungs, so the sap of plants in its passage through the leaves.
- (*e*) The sap thus exposed is more completely adapted to the wants of the vegetable, as the blood is to the wants of the animal economy.

Each of these parts must be clearly elucidated, in order that the children may have a thorough understanding of the lesson. We need not, however, enter into details, as we have already indicated the mode of procedure.

EXAMPLE IV.

The sky is changed!—and such a change! Oh night,
And storm, and darkness, ye are wondrous strong;
Yet lovely in your strength, as is the light
Of a dark eye in woman! Far along,
From peak to peak, the rattling crags among,
Leaps the live thunder! Not from one lone cloud,
But every mountain now hath found a tongue,
And Jura answers, through her misty shroud,
Back to the joyous Alps, who call to her aloud!

And this is in the night:—Most glorious night!
Thou wert not sent for slumber! let me be
A sharer in thy fierce and far delight,—
A portion of the tempest and of thee!
How the lit lake shines, a phosphoric sea,
And the big rain comes dancing to the earth!
And now again 'tis black—and now, the glee
Of the loud hills shakes with its mountain-mirth,
As if they did rejoice o'er a young earthquake's birth.

If the previous stanzas have been read, the force of the exclamation at the beginning of the passage will be at once apparent. It may be noticed that such contrasts are frequent in Byron's poetry. Some of his finest passages depend upon the effect produced by the introduction of opposites. Thus, in his description of "Waterloo," he passes from the brilliant scenes of a ball-room to the bloody field of battle. In "The Siege of Corinth" he draws a beautiful picture of the sea sleeping calmly in the moonlight, and immediately thereafter introduces us to a scene so awfully horrible as to make the blood run cold. Various questions may be put on the passage—we can only give a specimen of a few. What two figures of speech are employed in the first stanza? (apostrophe and personification.) Where is the apostrophe? Give other examples of the same figure. Point out the particular words which indicate the personification (leaps, answers, joyous, &c.)

What two qualities does the poet associate with the night, and storm and darkness? Are these qualities necessarily connected? Taking the common ideas regarding these qualities, do we generally conjoin them? What illustration does the poet use to enforce his meaning? Point out the terms in the illustration which correspond to the terms in the thing illustrated. Show the propriety of the epithet *live* as applied to thunder. What idea does the sound of the words, "the rattling crags among, leaps the live thunder," seem intended to convey? Give other instances where the sound is made to echo the sense, as in Milton's famous line, "On their hinges grate harsh thunder," &c. What are the mountains represented as doing? What particular mountains are singled out? Notice the effect produced by thus as it were localizing the description. "Every mountain" is a somewhat vague term, but by introducing "Jura" and the "Alps" the poet gives his description a local habitation, and the mind realizes it far more easily than if he had employed only general terms. Notice the graphic position in which the poet, in imagination, puts these mountains;—the Alps, as if in sympathy with his own spirit, rejoicing in the storm, and calling aloud to Jura, which re-echoes the shout. Why is Jura said to be covered with a shroud? &c. The second stanza should be gone over in the same manner.

EXAMPLE V.

I dare do all that may become a man;
Who dares do more is none.

A passage so full of meaning as this is, should be thoroughly impressed, by illustrations and examples, on the mind of youth. It teaches, in few but significant words, what constitutes real manliness, regarding which boys are apt to entertain such erroneous ideas. The teacher should first point out the full force of the expression "that may become a man," by showing clearly man's position, duty and destiny, as revealed in the word of God. A catalogue of those things which become a man is given in Philippians iv. 8. The teacher should refer to this passage, and show that he only who dares to do such things in spite of scorn, mockery or obloquy, deserves the name of man, and he who dares not do these things is no man.

EXAMPLE VI.

That which in *mean* men we entitle—patience,
Is pale cold cowardice in *noble* breasts.

The nature of the morality taught in this passage will depend on the meaning we attach to the words *mean* and *noble.* The teacher should point out the ambiguity which lurks under them. By referring to the context, it will be seen that the words really signify—*low-born* and *high-born.*—In this sense, it will be easy to show that the statement is erroneous, that patience is becoming the *noble* as well as the *mean*, that one rule of conduct is applicable, in God's sight, to both. If the words are employed, which according to present usage, they may be, to denominate respectively the class, who, from want of spirit, tamely submit to any injury, and the class who, like Paul before the Roman Governor, stand upon their undoubted rights, then the lesson taught is good, and may be impressed strongly on children.

Derivation.

90. An acquaintance with the sources from which our language is derived is valuable on many accounts; indeed no one can be said to have received a thorough English education who is ignorant of the history and the development of our language. Frequently it happens that a knowledge of the root of a word supplies the key to its meaning, although it cannot be denied that as frequently the literal meaning conveys but an imperfect idea of its present application. Thus the literal meaning of *import* would not impart anything like a full picture of the signification of the word. And not only is this the case, it is also to be remembered that words have, in the course of centuries, entirely changed their meaning, and are now used in senses very different from what they were originally, *e.g.* the words *villain*, *pagan.* Again, in many words the meaning, as determined by the root, still remains; but an additional meaning has been analogically superadded, *e.g.* in the words *apprehend*, *apprehension*, *sentence.* Now in all these cases the mere knowledge of the root will not serve any high end in education, and we would be inclined to condemn, as a piece of what is popularly termed clap-trap, those exhibitions, still too common, in which children repeat, with great volubility, all the derivatives

of the more common roots, without having the faintest idea of their true signification. Derivation is generally taught synthetically; a list of roots, prefixes, and affixes, is placed before the child, and he is compelled to commit to memory the whole, with the representative word to the bargain. This is reversing the natural order. Derivation ought to be taught analytically. The child should not be troubled, at least until considerably advanced, with any ugly unmeaning string of roots. And yet derivation should and may be taught from an early period, and in the following manner. In the ordinary reading-books, when a compound word, such as *tea-pot*, occurs, the attention of the pupils should be turned to it, and it should be pointed out that the word consists of two separate significant words. They might be asked to give other words formed in the same way, such as *wind-mill*, *house-top*, &c. In similar manner, secondary words should be dealt with. Such words as *runner*, *courser*, *tanner*, &c., would furnish opportunities of analysis, and it could be easily shown that the termination *er* produced a change on the original word, and that the change of signification was well nigh uniform. So also with such as *wisdom*, *kingdom*. Adjectives and adverbs should be treated in a similar way, and it would be no difficult thing to show by such words as *kingly manly*, *royally*, *manfully*, that the termination *ly* changed nouns into adjectives, and adjectives into adverbs. We need not multiply examples, the principle is evident, and the only one which accords with the true idea of education. In regard to the roots or stems of words, the same method should be adopted. In such words as *missionary*, *permission*, *demission*, *proceed*, *recede*, *succeed*, &c., the children would at once perceive a common element. The meaning of this common part should then be given, and when this has been done, it should be shown that in all the words this meaning may be traced. After exercises of the sort we have described have familarized the pupils with the leading roots, a list of prefixes, stems, and affixes, arranged systematically, should be put into their hands, and may be committed to memory, although in reality this is of very little consequence. It is of the utmost importance, however, in going over this list, and in forming words from it, to notice clearly the literal meaning, and also the present application of the word. To make sure that the children thoroughly understand the correct use of the term, they should be made to construct short sentences in which it occurs. Thus, when the meaning of *import* has been explained, a sentence should be asked for, such as, *England imports cotton from America.* We need only remark further, that, in advanced classes, the history of words should be traced; the changes in meaning which they have undergone should be used as illustrative of corresponding changes in the sentiment, the habits, or the religion of the people. On this aspect of the subject we may refer the reader to the admirable little work, on "The Study of Words," by Archbishop Trench.

Abstract of Lessons.

91. One of the most effective methods of examination, and one which subserves many important purposes, consists in causing the pupils to write abstracts of the lessons read. By an abstract of a lesson is meant the reproduction of the very essence of it, in language selected by the pupils. To do this, they must have a thorough comprehension of the subject of the lesson as a whole, and of the various component parts which go to make up that whole. Accordingly, in conducting exercises of this description, the teacher should endeavour, first of all, to give the pupils an adequate idea of the subject which forms the substance of the lesson. When this idea has been caught, and clearly apprehended, the pupils should be asked to give expression to it in their own words. The next step in the process consists of a rigid analysis of the lesson into its distinct component parts. It is a unity built up of several particulars. The pupils must know not only the lesson as a whole, but also each particular involved in it. In conducting this analysis, the teacher should endeavour to impress upon the pupils that each particular portion, thus detached, must contain an essential part of the lesson, without which, indeed, the lesson would be incomplete. These portions, so marked off, constitute the pillars of the building; and if one is removed, the building is, to that extent, weakened or altered in its structure. The idea or thought contained in these detached paragraphs should be elicited, first, in regard to its own intrinsic meaning, and, second, in relation to the whole—to what goes before and comes after. This being accomplished, the pupils should again be asked to express in their own words the idea or thought thus elicited.

We have thus a view of the whole building, and also of the various essential portions of it, considered individually, and in relation to one another: and the pupil is prepared for the last step in the process, which consists in the expansion of these separate portions, and in connecting them in a continuous narrative, so as to present a fair representation of the whole subject. This expansion must be in language selected by the individual pupil. In regard to essence, the abstract will thus be the same as the lesson, in form it will be different; and in examining such exercises the teacher will first consider whether the abstract presents the leading thoughts of the lesson in proper order and relief, and next whether the language used is fitted rightly to express the actual idea intended. Exercises of this description are of great service; they enable the teacher to ascertain whether any given lesson has been thoroughly understood, and they accustom the pupil to the all-important work of analysis, and of giving expression to his thoughts in language suited to the subject. The habit of mind thus formed will be invaluable. Boys trained in this fashion will instinctively look beneath the words of a book to that which the words represent, and there will be little risk of their skimming lightly over the pages of a work without being able to form any idea of the thoughts conveyed. When we remember how apt our education is to terminate in words, we ought to employ every means in our power to render it *real*, and not merely *nominal*. The work should be commenced at an early stage, and carried on systematically during the whole school life of the child. In actual practice it will be found a good plan to commence with a short, simple story. The story may be either told, or read from a book. When this has been done once or twice according to circumstances, the pupils may be questioned on its meaning, and then set to reproduce it in their own words. In examining the exercise, the teacher will, as already observed, consider first how far the pupils have caught the very point of the story, and then whether the language used is appropriate. Numerous examples of this simple kind will prepare the way for stories or narratives of a more complex description—narratives composed of several particulars, each of which, however, is essential to the whole. The exercise may be varied pleasantly and profitably by causing the pupils to tell instead of write the story. The great object in both cases is the same—that of training the pupils to extract from any given passage exactly what it contains, and neither less nor more.

EXERCISES.

1. The teacher can easily form exercises from any ordinary reading book.
2. What advantages result from a knowledge of the origin of words, and how should derivation be taught?
3. What do you mean by an abstract of a lesson? Show how you would train children to write such abstracts.

CHAPTER XII.—SPELLING.

The acquisition of good Spelling difficult.

92. To spell the English language correctly is no easy task, and requires an amount of labour of which those who have attained perfection in the art are scarcely aware. For, in addition to the difficulties which beset the subject of spelling in even the most regularly constructed languages, there are many peculiarities and anomalies in our own language which tend to render the acquisition of correct orthography a matter of extreme difficulty. When treating of the alphabet, we noticed a few of these anomalies, and we merely refer to them now for the purpose of showing that, to secure good spelling, children must be taught on a rational systematic plan. Many of our letters are silent, and are employed for the purpose of indicating sometimes the etymology of the word, and sometimes the correct sound of other letters in it. Many of the letters of our alphabet have different sounds; the same character being employed to represent sounds which are essentially distinct. This, we have already remarked, holds true particularly of the vowels, but is no less true of some of the consonants, *e.g.*, the character *c* as used in *cat*, and in *city*; so with *g* in *gem*, and *go*. Again, the deficiencies of our alphabet have to be met by combinations which frequently set all principles of arrangement at defiance. In-

deed the pronunciation of many words differs so much from the combined sounds of the letters employed to represent them, that it is utterly impossible to give any rule by which the correct spelling may be obtained, except that of constant practice. Such then being the difficulties which beset this subject, it becomes an important question to determine whether experience has proved any methods to be better than others, and if so, what these methods are. And here it may not be amiss to remark, and the remark holds true not only of this, but of all other branches of education, that the young teacher might, very profitably for himself, and with much advantage to his pupils, ask himself, how have I attained my present precision, by what steps have I arrived at the point where I can spell, either orally or in writing, any ordinary word that may be presented to me? We are convinced that it is the absence of this self-examination, this moving in beaten ruts, merely because they are beaten, the refusal, either through ignorance or laziness, to trace back to its elements their present knowledge, that leads many teachers to continue in the practice of methods unsound in principle and unproductive of results. Perhaps in no subject has this want of examination been more manifest than in spelling, and hence the undefined and erroneous notions which oftentimes prevail in regard to it.

Spelling.

93. Spelling consists in representing words by their proper letters. It is the opposite process to reading. In reading, the child has the form presented to his eye, and he is required to interpret it in sound; in spelling, the sound is present to the mind, and the child has to embody it in form. This fact at once indicates the point at which the teaching of spelling should be commenced, and the main principle on which the instruction should be based. Spelling should be taught through reading, and not until the child has learned to read, more or less, should he be required to spell; for, if spelling consists in representing in form the sounds of words, it is evident that the child must be acquainted with the form before he can be asked to reproduce it. But form, considered by itself, is dead; it is only where the mind clearly comprehends the meaning of what the form contains that it becomes living; and, accordingly, the forms and

meanings of words must be familiar to the mind before the words can be correctly spelled. In order, then, to secure good orthography, the teacher must accustom the eye of the pupil to the exact shape and form of the words to be spelled, and must render these words living words by giving the mind the true conception of their meaning. Whatever tends to secure these two objects—to train the eye and the mind—will also tend to secure good spelling. We hear a word spoken for the first time, and we may happen to spell it correctly by analogy, but we can have no certainty that our spelling is correct unless we have *seen* the form of the word. Such is the law, and the application of it to the case of children is easy. Let the teacher use every means in his power—reading, the black-board, dictation, &c.—to accustom the eye of his pupils to the forms of words, and let him unfold to their minds their meaning, and he will not long have to complain of bad spelling in his school. Let the picture of the word be distinctly present to the mind's eye, and the bodily eye will at once recognize that picture when embodied in letters. "The sound or pronunciation of a word will not enable us to spell it, because, as we have seen, the same sounds are often represented by different signs or letters. The words *meet*, *mete* and *meat*, for example, are spelled differently, though the sound or pronunciation of each is the same. To spell a word correctly, therefore, we must be well acquainted with it. We must know its meaning or signification, and the identical letters which compose it. The *sound* of it is not sufficient; we must know how it looks; and this the eye will enable us to do, for, as has been well said by an American writer, 'the eye in such cases may be said to remember.' Hence, when we are in doubt as to which of two ways a word should be spelled, it is a good rule to write down both, and they will enable us to decide which is correct. Hence, too, persons that write or even read much are, in general, correct spellers; for their eyes are so well acquainted with the form or appearance of the words, that they can at once detect the errors which arise from wrong or omitted letters."* These words furnish us with the true method of teaching to spell, and at the same time enable us to form a correct estimate of the value of spelling-books as a means to this end.

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* "The Spelling-Book Superseded," p. 11, foot-note.

First Stage.

94. If spelling can thus be acquired only through reading, it is of the utmost importance to have a good series of reading-books, and, in the following remarks, we wish the reader to bear in mind the observations already made on reading. Children should be early taught to spell, and the first reading-book may be used as a manual for spelling as well as for reading. When one of the simple lessons contained in this book has been gone carefully over with the children, and when they have become perfectly familiar with the forms of the words, they should be asked to give the letters that compose them. We endeavoured to show that the first reading-book should deal with regular monosyllabic words; and where this is the case, and where the lessons are graduated, and refer to things within the range of the child's experience, there will be little difficulty in teaching correct spelling. The following hints may briefly sum up our observations on this first stage:—

1. Let the words be regular, *i.e.*, let each letter have a fixed value and be sounded.

2. Let the words be significant; the names of objects, qualities or actions familiar to the children.

3. Let the words be arranged in short significant sentences, and let the whole sentence be spelled.

4. As soon as possible, written exercises should accompany spelling by the ear.

Second Stage.

95. The real difficulty in learning to spell commences after the first stage has been passed, and when the anomalies of our language begin to appear. These anomalies can be learned only by constant practice in reading and writing. We shall have occasion to speak of dictation immediately, but in the meantime we may observe that the first thing to be done here, as in the former case, is to render the children familiar with the form and meaning of the word. For this purpose, those words which stand at the head of each lesson should be analysed, their meaning given, and any peculiarity of spelling noticed. These words appear again in the course of the lesson in sig-

nificant sentences, and this fixes in the mind not only their technical meaning, but also their correct application, and when the word has thus been presented to the eye over and over again, the children will be enabled to spell it without much difficulty. At the same time, if the various reading-books be drawn up in a course of regular gradation, the same classes of words, in respect of orthography, will be successively brought under the notice of the children, and they will thus learn to discover analogies which will be of material assistance in the acquisition of spelling. Again, should a word illustrative of any particular principle occur in the lesson, advantage should be taken of it to point out the principle; and other examples should be given. Thus, the words *manly*, *manliness*, would furnish an opportunity of illustrating the principle that words which end in *y* preceded by a consonant, change the *y* into *i* when a syllable is added. Such words as *mighty*, *mightily*, *hearty*, *heartily*, *fancy*, *fanciful*, &c., would tend to impress this principle on the minds of the pupils; whilst it would be equally easy by means of such words as *boy*, *boys*, to show that when *y* is preceded by a vowel, it is not changed. In the same way, *sin*, *sinner*, *fop*, *foppish*, *seat*, *seated*, *bait*, *baiting*, would enable the teacher to illustrate the principle that monosyllables, ending in a single consonant preceded by a single vowel, double the consonant when a syllable is added, but when two vowels occur the consonant is not doubled. Words similarly pronounced, but differing in spelling, must be carefully pointed out. They should be written on the black-board, the meaning given, attention called to the difference in spelling, and, when the words are met with in the reading lesson, care should be taken that the children clearly distinguish by their forms the one from the other. In like manner when an anomalous spelling is retained for the purpose of indicating the etymology, this should be noticed and similar instances given. Words such as *plough*, *cough*, *rough*, *&c.*, can only be acquired by constant attention to their form when they occur. In some such way as we have indicated the reading-books may be used in teaching spelling, and, if so used, they will serve to give the spelling not only of the words occurring in themselves, but also of many similar words which cannot be pressed into any one series of reading-books, however carefully compiled.

Spelling-Books. 96. But even the most perfect series of reading-books can contain but a small portion of the words which are to be met with in the language; and the question occurs, how are children to become acquainted with the spelling of those words which do not occur in the reading-books? We have already given a partial answer to this question, by showing that the words occurring in the reading-books should be used as the representatives or types of other words which do not occur in them. Much may be done in this way, by the judicious teacher, to extend the pupils' acquaintance with orthography. The private reading of the children will also serve the same end. But even with all these aids, there will still be many words, necessary to be known, but with the spelling of which the pupil cannot become practically acquainted. This brings us to consider briefly the question of spelling-books. Of late they have fallen into such disrepute that it requires some courage to stand forward as their advocate. We are inclined, however, to believe that the odium attached to them arises, not so much from defects in the books themselves, as from the mode in which they have been employed. It happened too frequently that the teacher used them as he might be expected to use a dictionary in similar circumstances. A column of words, which had no meaning, because they were not understood, was prescribed to the child, and these he was compelled to commit to memory, no effort being made to give him any idea of the meaning or of the application of the terms so learned. Now this was a gross absurdity—a monstrous waste of time and labour. But we are not entitled to condemn a system, which may be right in itself, merely because some parties have abused it. And to us it seems that a manual of spelling might be very serviceably employed. To this end, however, two things are necessary; that the manual be constructed on scientific principles, and that it be taught on a right method. As to the first, the words should be arranged, as far as possible, in similar groups; the principle of classification should be recognized, and those words brought together which follow a common law, as is the case in the "Progressive Exercises in Spelling, including Spelling to Dictation, by John Manson."* The recognition of this principle would at once set aside those manuals which consist of columns of words all deducible from the same stem; for however valuable these may be in an etymological point of view, they are well nigh useless in orthography, inasmuch as scarcely any two successive words follow the same orthographical laws. As to the second, we suggest the following method, which would furnish exercises in spelling, and also in grammar and composition. A certain number of words, to be determined by the child's proficiency, should be given out each day, and, when given out, the meaning of the words should be explained, and their application illustrated by short sentences into which the words have been introduced. The children should then be required to bring with them, as an exercise on the following day, a few short sentences containing the prescribed words, and after these exercises have been examined, errors pointed out, and corrections made, they should be required to spell the words by the ear. In all these exercises the black-board should be in constant use, wrong-spelled words should be written on it, and the correct form underneath. Analogies between different words should be exhibited to the eye, and every principle illustrated by specimens actually written down. In this way a spelling-book might be of essential service in school; and by means of it, along with the reading-books and exercises in dictation, good spelling might become the rule in all our schools.

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* Glasgow: Wm. Hamilton London: Simpkin, Marshall, & Co.

Dictation.

97. From the remarks already made it will be evident that correct orthography can never be acquired until the pupils have been accustomed to write. Hence arises the necessity of dictation lessons, the want of which in our schools is one cause of the bad spelling of which H.M. Inspectors, in their reports, so often complain. This exercise should be begun at an early age, and carried on systematically during the whole period of a child's attendance at school. As soon as children have begun to write, dictation exercises should be given. "Young pupils, writing a few words from dictation every day, will think that they create, in some measure, the words they write; they will be so many discoveries for them—so many new acquisitions. The pleasure they feel will be a useful excitement; and the little

gratification to vanity they derive from it will be sufficiently repressed by the correction their work will require." Besides, such exercises will have the advantage of leading the pupils to put a higher value on good spelling than they are generally inclined to do, for they will soon come to see that writing is, by itself, of no use apart from the power of representing correctly in letters what they do write. The first exercises in dictation should be written on slates; but, after a time, pen and paper should be employed; and in this way, as we shall show more fully when treating of writing, a boy might be prepared to pass at once from the school to the counting-house. In too many cases it happens, that a boy, on entering an office, has entirely to learn what is called a *running-hand.* This arises from his having been confined, while in school, to set formal copies; whereas the habit of writing on paper to dictation would have taught him the hand which it takes him two or three months to acquire.

Method of Dictating.

98. Before commencing to dictate, the teacher must ascertain that all slates are clean, and that all the pupils have pencils of the proper length, and well sharpened. Short pencils should, on no account, be allowed; for they tend to cramp the fingers, and to a certain extent unfit the pupil to wield a pen with the ease which is necessary to good writing. For young pupils the slates may be ruled; but in course of time no assistance of this kind should be given. It is of the utmost consequence to accustom the children early to write as they will have to do in actual life. These observations apply with equal force to dictation on paper. The person who dictates must do so in a clear distinct voice, giving each word its proper sound, and carefully distinguishing words nearly allied in pronunciation. The words should be familiar to the children, and care must be taken that they know their application in the sentence to be dictated. For this purpose the sentence should be read over before the exercise begins, and the pupils asked if they understand its meaning. When the passage consists of a paragraph, or of a short story, the same method should be adopted. The whole piece should be read over slowly and distinctly, and thereafter each sentence in detail, as the dictation proceeds. The number of words to be dictated at once should increase

with the progress of the pupils—with beginners one word may be found sufficient, but the pupils should be gradually trained to write down, from one reading, a number of words in succession. After the words have been once spoken the teacher should abstain from repeating them while the pupils are writing, for, if he does repeat them, he defeats one important end of the exercise, which consists in cultivating attention, and through it the memory. Moreover, the repetition of the words will have the effect of confusing the children, by compelling them to think of two things at once. To secure order and quietness, the master should select one of the pupils, who writes with average rapidity, to read the dictated words over when he has written them down, and no new words should be given out until this pupil has given the signal. The length of the dictation lesson will necessarily vary with the circumstances of the school; but mere quantity is really as nothing compared with daily lessons, regularly graduated and systematically carried on.

Correction of Exercises.

99. Dictation lessons are utterly useless, unless they are carefully examined and corrected. On their correction depends their use as a means of teaching correct orthography. No master, therefore, need trouble himself with giving such exercises, unless he also troubles himself with their correction. The fact is, that, without correction such exercises are positively injurious, for they habituate the eye of the pupil to wrong spelling, while one main design of them should be to accustom him to recognize a rightly spelled word by its very form. The most effectual mode of correcting such exercises would be for the master to revise each slate in detail; but this is utterly impossible in a large mixed school, where the master has so many other duties to attend to. The following method we have found to work well. With young classes, each word dictated is written down, in a clear distinct hand, on the black-board, and the pupils then compare their exercise with the pattern. A mark is attached to every mis-spelled word, which is afterwards written correctly at the end of the exercise. With more advanced pupils the master spells over the whole passage, the pupils putting a mark to every error, and when the passage has thus been gone over, the errors are

corrected in writing. All corrections thus appeal not only to the ear, but also to the eye, which mainly requires to be trained. Occasionally the master selects one boy, who reads the passage exactly as he has it written, while the other pupils look on, and detect both his errors and their own. Sometimes we have seen the pupils compelled to exchange slates with their neighbours, but this plan is objectionable, inasmuch as it implies suspicion of the class, whereas it ought ever to be a maxim with the teacher to trust a boy, aye and until he has detected him in some overt act of dishonesty or fraud. The method we have suggested is simple, requires little time, and is thoroughly effectual, provided the master see that all mis-spelled words are correctly written down.

Course of Dictation Lessons.

100. If dictation is to be carried on systematically, it is absolutely necessary that the lessons be graduated. When the matter is left entirely to the spur of the moment, there is great danger that the master may select what comes first to hand, without paying much regard to its adaptation either to previous lessons, or to the attainments of the pupils. To obviate this danger, and to secure variety with graduation, the master should employ a text-book, containing a systematic course of lessons. There are not many good text-books of this kind in our language, but if the reading-books used in the school are properly constructed, recourse can be had to them. The specimens of lessons we have given in a previous chapter, suited to different stages of advancement, will serve to indicate the nature of the graduation of which we are now speaking. But in addition to exercises drawn from the reading-books, such a text-book as "Sullivan's Spelling-book Superseded" would be of decided benefit in the school, more particularly for those pupils who are reading the third and fourth books. "This text-book," says the author, "contains either in columns, or in sentences formed for *dictation*, all the words in the language which are liable to be mis-spelled, such as :—

1. Words similarly pronounced, but differently spelled.
2. Words similarly spelled, but differently pronounced and applied.

3. Words spelled and pronounced alike, but differing in signification.
4. Words liable to be mis-spelled, either from the silence or unusual sound of one or more letters.
5. All words of unsettled orthography.
6. Practical rules for spelling."

Passages from history, and books of travels, the poets and orators of the country, might, with much advantage, be dictated to the advanced classes.

Other aids to Spelling.

101. While the means described will tend to produce good spelling, too much confidence must not be placed in these means alone. Hence the teacher should notice, and cause to be corrected, errors in orthography which occur in the exercises performed by the pupils either at home or in school. It is by thus constantly directing attention to the subject that the end contemplated will be attained. To secure that names of places and of persons be correctly spelled, a certain time each week, in the course of the geography and history lessons respectively, should be devoted to writing short sentences into which these names are introduced. During the writing hour the older pupils might be required occasionally to copy certain passages from one of the reading-books, which would have the effect of vividly impressing on the eye the forms of the words. If exercises, such as we have attempted to describe, are methodically and regularly conducted by the master, he will soon find that bad spelling will almost entirely disappear from his school.

EXERCISES.

1. What exercises are best for teaching spelling?
2. Mention some of the difficulties peculiar to the orthography of the English language.
3. Describe the best method of conducting dictation lessons.
4. Describe the most effective way of correcting a lesson in dictation.
5. Describe a series of dictation lessons graduated so as to illustrate the difficulties of English spelling.
6. Give exact directions for a pupil teacher to dictate and correct a written exercise in your first class.
7. What lessons in spelling do you propose to give in the first, second, and third divisions of your school?

CHAPTER XIII.—WRITING.

Method.

102. Three things go to constitute good writing;—the form of the letters,—their inclination,—and the distances between them. If any of these things is overlooked, the writing, to that extent, will be defective. Now, in order to the acquisition of these three things, it is obviously necessary that some method, based on natural principles, be adopted. The mere blind imitation of examples may, in the case of a boy who has a steady hand and a good eye, lead him to write well; but the good writing, in such a case, will be the result of accident, and the acquisition of it will only serve to develop the boy's power of imitation, without calling into exercise any of the higher faculties of his mind. But with many, who do not possess the faculty of imitation in any strong degree, and who see in writing only so many unmeaning lines, the hour set apart to writing is dull and monotonous, and their great desire is to have the prescribed page filled up as speedily as possible. Nor can it well be otherwise when we remember that work, which does not exercise the understanding, possesses no charms for the young. Teachers at the outset of their career are apt to forget this; and hence, too often, they consider it quite sufficient to *occupy* their pupils, without observing whether or not the occupation is fitted to lead them to reflect on what they are doing. This holds true very specially of writing. The pupils are arranged at the desks, their writing-books are given out, a pattern is set before them, and they are left to imitate it as best they may. The consequence is that the writing rapidly degenerates as it nears the bottom of the page; for the scholars, when they have written one line, set themselves to imitate their own writing, instead of the copy which has been set before them. Not only is this the case, but it almost always happens that the pupils have no adequate idea of what is required of them. Why a certain letter rises above the line a certain distance and no more, why one occupies more space than another, are matters with which they never trouble themselves; should a boy whose mind desiderates reasons for what

he does, make any inquiry into the principles which ought to guide him, he is rudely interrupted and told to imitate what is set before him. But writing is no mystic art which refuses to give up its secrets to the anxious inquirer; it follows laws well defined and easily comprehended by the meanest capacity; it appeals not only to the eye and the hand, but to the understanding and the memory, and only when these are taken into account can we expect writing to assume in our schools the place which is due to it, and to receive that amount of attention without which there cannot be, except in accidental cases, good writing. To any one who examines with any degree of attention the written characters of our language, it will be evident that these characters can be analysed into a very few simple elements, and that all our letters are made up of simple modifications of these elements. Such being the case, it would seem to be the natural method of teaching to write to commence with analysis. The complex written characters should be analysed into their elementary parts; these elements should be arranged in the order of their complexity, and thus presented to the child, who, in reconstructing them, learns to write. The self-same principles which we endeavoured to establish when treating of reading, should, *mutatis mutandis*, be applied to writing. The simple should always precede the complex, and the knowledge which the child possesses should be made the stepping-stone to further attainments. The known should always go before the unknown; what the child knows, either by natural or mental vision, should be laid hold of as the hand to guide him to what he does not know.

Analysis of our Written Characters.

103. Such being the natural method by which our knowledge is attained, it is obviously the teacher's first duty to make himself thoroughly acquainted with the elements which go to compose the written characters of our language, and with their classification in the order of their complexity. For the following observations on this subject, we are mainly indebted to the "Manual of Writing" by Mulhaüser, who was the first to give a complete analysis of the written characters. We can only make one or two brief remarks, and must refer the reader for a fuller discussion of the subject to the manual itself, merely reminding

him that, while he will meet with many things worthy of his attention, he will also find much which is both useless and impracticable. The hand in writing has four principal motions :—

1. The downward motion **/**
2. The upward motion /
3. The motion from right to left)
4. The motion from left to right (

From these four motions there result two sorts of lines—

1. The right line **/** /   2. The curved line ( )

These two sorts of lines supply us with the four elements of letters ; viz. :—

1. The right line /   2. The curve line (
3. The loop *j h*   4. The crotchet

With one or two slight modifications we can resolve all the written characters in our language into these four elements. For the purpose of joining right lines to one another, we have recourse to what are termed the *hook* and the *link*, both of which are seen in the written character *m*, the hook at the beginning, and the link at the end of the letter.

Classification of our Written Characters.

104. Having thus analysed the characters used in writing, the next step is their arrangement in the order of their complexity, and we have—

1. The letters formed of the right line and the link, viz. :— *i, u, t, l.*

2. The letters formed of the right line, the hook and the link, viz. :—*n, m, h, p.*

3. The letters formed of the curve, viz. :—*c, e, o.*

4. The letters formed of the curve and the right line, viz. :—*a, d, q.*

5. The letters formed of the loop, viz. :—*j, g, y.*

6. The crotchet letters, viz. :—*b, f, v, w, u, r.*

7. The complex letters, viz. :—*k, s, x, z.*

The height of the Letters.

105. Not only must the teacher be thus able to analyse the letters into their elements, he must also know their relative heights. All the letters are not of the same height, and in order to make this clear, we shall give a more particular analysis of each letter, in the order in which they are placed in the last paragraph. For the sake of explicitness, let us call the space between three horizontal lines ≡ a height. According as a letter passes above or below these three parallels, it is one height and a half, two heights, two heights and a half, or three heights. To indicate that the line passes below these three parallels, we may use the word *down.* The *absolute* height of the letters will depend upon the size of the hand which the pupil is required to write; we use the expression for the purpose of fixing their *relative* heights. With these explanations, and requesting the reader to rule a page of paper and write the letters as he proceeds, we present the following analysis:—

The hook commences at the half height.
The link terminates at the half height.

i is composed of a right line and link.

u of right line, link, right line, link.

t of right line, height and a half; link, bar.

l right line, two heights, link.

n hook, right line; hook, right line, link.

m hook, right line; hook, right line; hook, right line, link.

h right line, two heights; hook, right line, link.

p right line, two heights and a half, one height *down;* hook, right line, link.

c curve (the dot at the commencement beginning at one fourth the height), link.

e loop (a very narrow oval, united to the curve a little above the half height), curve, link.

o the chief elements of this letter are two curves, the one from right to left, the other from left to right, the first curve being a fine line.

a double curve, right line, link. The right line is united to the curve at *one fourth* of the height and leaves it on passing the half height.

d double curve, right line, two heights, link.

q double curve, right line, two heights *down;* this letter is united to the one which follows it by a stroke like the link, proceeding from the *half height.*

j right line two heights *down*, loop, half link. The loop ends in ascending at one height and a quarter *down.*

g double curve, right line two heights *down*, loop, half link.

y hook, right line, link; right line two heights *down*, loop, half link.

l right line two heights, link, crotchet.

f loop one height above, right line three heights, one height *down*, crotchet.

v hook, right line, crotchet.

u hook, right line, link, crotchet.

w right line, link; right line, link, crotchet.

The analysis of the complex letters cannot be made very clear without models. Let the reader examine carefully any good model and he will at once see how they may be analysed. From the foregoing analysis it will be evident that all the letters maintain a certain relative height in regard to each other, and that unless this relation in the height of the letters be preserved the writing cannot be good. It is only when all the letters are of the exact height, that the writing will present that symmetry of form which is so essential in good writing. It will also be evident that children can, without any great difficulty, be made to know the relative heights of the letters, and thus at once correct their own mistakes in that respect.

The Inclination and Distances of the Letters.

106. But the letters must not only be of the proper height, they must also be properly inclined, and placed at proper distances from each other. The inclination for all the letters is the same; but, while this is the case, we are not aware that there is one uniform standard of inclination. This may depend much on the taste of the master; the point to be specially attended to being that when the first letter has received a given inclination, all the others must be regulated by it. Hence an easy rule can be laid down whereby children may for themselves detect to what extent they have adhered to the prescribed form. We shall have occasion immediately to point out some of the aids which may be employed in assisting children to acquire the various essentials of good writing. In addition, however, to a proper inclination of the letters, good writing requires that they be placed at proper distances from each other, and that each letter occupy a space exactly proportioned to its size, without which its correct form cannot be given. Let us call the distance between two right lines *a space*, and let this distance be equal to *half the height;* then " letters formed of the right line and link should occupy *one space.* Between letters formed by

a link and a hook there is *one space and a half.* Between letters composed of curves there is only *a half space.* The letters *c* and *e* take up each *a space and a half;* but when the link of either of these letters is united to a letter commencing with a hook, there are *two spaces* between the curve of the *c* or *e* and the right line of the succeeding letter. The letter *o* is separated by *a whole space*, whether it goes before or follows a right line. The loop forms a very narrow oval. Its width is *three-fourths of a space.* In regard to the crotchet letters, there is *a space and a half* between the leg or right line of the letter *r*, and the letter which follows it. When *b*, *v*, and *w* are united to curve letters there is only *one half space* between them; but, when united to right lines, they are separated by *one whole space.*" *

Writing Desks.

107. Having thus analysed and classified the letters in the order of their complexity, and having indicated, in very general terms, their height, inclination, and distance, we are now in a position to teach children to recombine them, and by this very exercise, as we have already remarked, they learn the art of writing. But in order to their writing, various other things are necessary, and these we shall now briefly consider. And first in order is the arrangement of the classes. As pointed out in the chapter on Organization, it is exceedingly desirable to have the writing-desks arranged along the length of the school, rising slightly the one above the other, and so constructed that all the pupils face in one direction. The advantage of this is that the master can give a general lesson on the blackboard to the whole class at once, can make the correction of one individual's fault the means of calling the attention of all to the cause of the fault, and may thus save much precious time and much unnecessary trouble. Along the top of the desk there should run a narrow ledge for holding the ink-bottles, which ought, in all cases, to be fixed, so as to prevent the possibility of the ink being spilled. The leaf of the desk should have a very slight inclination, and to prevent the writing-book from slipping off, a beading of wood should run along its lower extremity. The beading should be so thin as not to incommode the arm when resting on it. It would also

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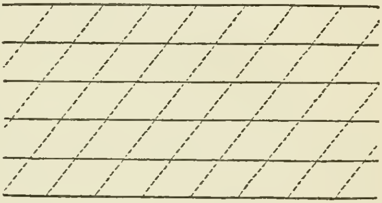
* Mulhaüser's "Manual of Writing."

be desirable to have each pupil's place at the desk marked off by a stripe of paint; this would prevent confusion, as no boy could have any excuse for trespassing on his neighbours' ground. The height of the desks will, of course, depend upon the size of the scholars; but it is of great importance to have them neither too high nor too low; for, unless the children feel quite comfortable when seated, they cannot write well. For the same reason, there should be a foot-board, on which the feet of the scholars may rest when writing, to prevent them from swinging backwards and forwards; for "the position of tho feet determines that of the body, and this latter determines the character of the writing, its inclination, and its regularity; the pupils require, therefore, a resting-place at a convenient height. To move the feet is so natural, and yet so injurious to good writing, that considerable vigilance will be required to prevent this motion."

Writing-Books.

108. The pupils having thus taken their seats, they are next supplied with writing material. Slates, from false notions of economy, are frequently employed with beginners. We question the propriety of this. To write on slates is a very different thing from writing on paper—it is on the latter that the pupil will have to exercise the art. For dictation and many other exercises, writing on slates must be largely practised in schools; but we would be inclined to suggest whether slate writing should not be acquired from paper writing, instead of writing on paper from writing on slates, as is sometimes done. A slate and slate-pencil are hard and unpliant, and have a tendency to give the fingers a stiffness and rigidity quite destructive of good writing. Besides, the mode of holding a pencil is so different from that of holding a pen, that to learn to write with pencil does not materially assist the acquisition of writing with a pen. On these and many other grounds, we would prefer to use paper with beginners. But the paper must be prepared in a certain way; and here we must enter somewhat more into details than we havo hitherto done. We have seen that good writing requires that the letters be of a proper form, be correctly inclined, and at proper distances from each other. The writing-books in common use give very little assistance to the pupil in respect to these three things.

For the most part, they simply assist him in writing straight, but as to the height, inclination, or distance of the letters from one another, he is left to imitate the model as best he may. Now whilst we are no advocates for keeping children always in leading-strings, we are certainly of the opinion that to expect a boy to copy exactly the model of any letter whatever, without vouchsafing him any assistance, is expecting too much, and giving the child labour, which, in the circumstances, is needless. In order, therefore, to assist him in determining with precision the height, distance and inclination of the letters, the writing-book should be ruled not only horizontally, but in a slanting direction, the distance between the horizontal and the slanting lines being the same, and fixed by the size of the hand which he is required to write. The specimen at the side of the page will indicate our meaning. The horizontal lines enable the pupil to measure the exact height of each letter, while the oblique lines guide him in respect to the inclination of the letters and their distances from one another. In ordinary writing-books, it is exceedingly difficult to get beginners to give all the letters the same inclination, the reason being that the pupil, imitating his own work, departs further and further from the proper degree of inclination as he approaches the end of the line; and hence it is no unusual thing to find a letter at the end of a line turned exactly in the opposite direction from the letter at the beginning of the line. Now a copy-book, ruled after the manner we have described, presents to the pupil, when forming each letter, a rule which he can hardly fail to follow, and the writing, although at first it may not be elegant, will be symmetrical, and the pupil will thus learn almost instinctively to measure by the eye the proper height, inclination, and distance of the letters. After he has been familiarized with these three essentials of good writing, the oblique lines should be gradually withdrawn, and the pupil left to trust his eye alone. By degrees too, the horizontal lines will be so far removed that



the pupil will learn to give the letters their proper height, without any of the artificial helps we have suggested. And after sufficient expertness has been attained, unruled writing-books should be used, in order to accustom the child to write exactly as he will have to do in after life. Writing-books of the kind we have described are now to be had from any bookseller, and we would earnestly advise the young teacher to give them a trial. In each writing-book, of whatever kind it may be, there ought to be a piece of blotting-paper, and no pupil, whose book is not supplied with this indispensable requisite to neatness and cleanness, ought to be allowed to commence his writing lesson. Indeed, it would be well to have the writing-books interleaved with sheets of blotting-paper; for when it is detached it is very apt to be torn or to be lost. On no account should any writing be allowed on the cover of the writing-book, or on the blotting-paper; for the practice of scribbling, frequently acquired in school, is utterly destructive of those habits of neatness which no lesson is so well fitted to teach as the writing one. After the pupils have all taken their seats, the pupil-teachers, or the monitors, as the case may be, should hand round the writing-books. These should be arranged exactly in the same order as the pupils sit, so that in giving them out there may be no confusion. When the lesson is finished, all the books should be collected in the order in which they were given out, and carefully deposited in the case set apart for them. Attention to these apparently trivial matters is of consequence, inasmuch as the whole school machinery will move sweetly, and without any effort, in direct proportion to the care bestowed on such arrangements.

Writing Models.

109. When the writing-books have been thus given out, the monitors should next give to the pupils the writing models. These should be given out and collected in the same order as the writing-books, and care taken that similar models be all kept in one place, so as to be ready whenever required. The practice of having head-lines on the writing-books is objectionable, and now that models are to be had so cheaply, and done up in a way that secures them from being obliterated for a long time, provided only they are handled with any moderate degree of care, we would

advise the teacher to obtain a sufficient supply, and he will find them more suitable for his purpose than engraved headlines, or even than setting the copy, as it is technically called. To set the copy of each child in the school is a labour which the master cannot by possibility overtake, and which he should not attempt. Neither should this work be entrusted to pupil-teachers, for, setting aside the temptation under which they lie to do it carelessly, their own writing is too frequently not so good as to serve as a model for the scholars. In these circumstances, a set of good models, regularly graduated, will serve every useful purpose, and, if the writing-books are carefully inspected, and errors pointed out, more progress will be made than where the master sets the copy and leaves the pupils to write as they please.

Pens.

110. Pens are the next requisite, and, while quills might be most useful in giving freedom to the hand, yet the trouble connected with them is so great that we do not counsel their use. Steel pens are now made with such care, and are so much employed in offices and counting-houses, that they may be used in school with advantage. "They are cheaper; they require no mending. When they are employed the following regulation should be in force:—At the end of the writing lesson, the monitor is to move along the desks with a tin cup containing water, in which every pupil is to deposit his pen. The monitor, having collected all the pens, is to wipe each on a cloth, and to place it in a box. By this means one pen, if fairly used, will last two or three months, and the dirty habit of the children wiping their pens on their clothes will be avoided."* We need scarcely say that the equally dirty habit of wiping the pen in the mouth, or on the blotting-paper, should be firmly interdicted; and the children should be often cautioned against the wanton destruction of pens. As already remarked, habits acquired in school frequently stick to a person through life; and we would scarcely seek higher evidence of a man's being an earnest and faithful teacher than to find him diligently watching over his little flock, and guarding them from the acquisition of any habits which are unbecoming or slovenly.

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* Mulhaüser's "Manual of Writing," p. 31.

Holding the pen.

111. We have the pupils thus prepared for receiving instruction, and the first thing to be done now is to train them to hold their pen aright. The following hints, although to be found on the cover of almost every writing-book, may not be out of place here. The hints are inserted for the benefit of the teacher, and not for the purpose of being taught the pupils. Mere abstract rules are, in their own place, useful; but no pupil will ever learn to hold a pen correctly from having been taught a set of carefully-digested rules; he must be *trained* as well as *taught* how to hold it. The remark holds good with regard to the position of the body. Our object is to lay down those things which the teacher should know who sets himself to teach writing; but these various rules he should work into the minds of his pupils by degrees, and as opportunity offers.

"1. The pen is held between the first two fingers and the thumb.
2. The fingers should not be stretched out too far, nor be too much doubled up.
3. The pen, without being held too stiffly, ought not to move between the fingers.
4. The hand supports itself on, and is, as it were, suspended upon the third and fourth fingers.
5. It is upon these two fingers that the hand glides along the paper from left to right.
6. The fingers which hold the pen should not pass below the open part of it.
7. The pen, in writing, is held so as to point to the shoulder.
8. It ought to be pressed lightly, and should make no noise.
9. Both sides of the nib of the pen should press equally on the paper, or the pen will leave a thicker mark on one side than on the other.
10. Those fingers only which hold the pen should move in the formation of the letters.
11. The fore-arm and wrist should not move at all.
12. In pushing forward the arm to the right, the hand does not change its direction.
13. The hand ought to be inclined in such a manner as to cause the nib of the pen to be seen."

Position of the body.

112. Next to the holding of the pen, the pupil must be taught how to sit, and how to keep the writing books. In writing, the body should be kept as erect as possible. The children should not be allowed to lean their chests on the desks,—a habit which injures both their health and their writing. The left side should approach the desk, while the right is thrown slightly back. The writing-book should be placed somewhat to the right, and at such a distance from the pupil as will enable him to reach it with perfect ease and freedom. It should be parallel to the edge of the desk, and kept from moving by the left hand, which, for this purpose, should be drawn in close to the left side, the fingers stretched out and resting on the paper. In order to give the right hand the liberty necessary to write well, the arm should rest on the desk about mid-way between the wrist and the elbow. The pupils must be trained to take and retain the proper position by frequent and oft-repeated exercises.

First Lesson.

113. On the supposition that the master is thoroughly acquainted with the analysis and classification of the letters, which we have briefly described, and that the pupils have been taught to sit in a proper position and to hold their pens correctly, he would now proceed to teach them to write. Standing in front of the black-board, with all the children facing in his own direction, the master should write down one or two simple words with which the pupils are familiar, and after calling their attention to the difference between written and printed characters, he would proceed to show them what constituted good writing. They might be asked to give their own ideas on the subject; and by a short conversational lecture, in which the children bore their part, he could easily point out that the letters require to be of a proper form, regularly inclined, and correctly joined to one another. Such an exercise would arrest their attention, lead them to see that writing followed simple and easily-understood laws, and that for one boy to write well and another badly was not the result of mere chance. After these things had been pointed out, it could be shown that in all the letters there were a few common elements, a knowledge of which was necessary to

enable one to write well. By writing down some of the letters, the master could lead the children to notice that the right line entered as an element into a number of the characters, but that it appeared under different lengths, while they would at the same time perceive that the length was not arbitrary, but uniform for certain classes of letters. By this analytic process, the children would be prepared to enter on the work of synthesis with understanding, and might be expected to pay more attention, and to make more progress than if set to imitate a stroke, without any knowledge of the benefits which the imitation would confer on them. The way being thus cleared, a model should be set before them for their imitation. We need scarcely repeat what we have said so often, that the simple characters should always precede the complex; and that there should not be manifested any desire to hurry the pupils on too fast. One thing should be done at a time, and done thoroughly; and as soon as one element and its combinations have been mastered, a new and more complex one should be presented. It would be desirable to allow the pupils to write whole words as soon as possible, in order thereby to lead them to take more interest in their work. The black-board should be in constant requisition. No new letter should be given until an analysis of it had been presented on the board, and until its form and shape had, as it were, been impressed upon the eye. "Instruction must be given, which will not only impress the forms on the eye, but which will enable the mind to determine at all times what is necessary to the production of perfect letters, and to point out the defects that occur, and how in any given case they may be remedied."

Things to be attended to in Writing.

114. Convinced as we are that children can never be made to write well unless by the constant exercise of attention on the part of the master, we shall, even at the risk of being considered tedious, point out a few things which the master ought specially to attend to in the course of the writing lesson. With beginners, his great object should be to train them to handle the pen with ease and dexterity. This is no easy accomplishment. Young children find very considerable difficulty in wielding the pen in such a way as to cause it to obey the impulse of the will.

The understanding may be thoroughly alive to the due proportion, form, and symmetry, of any one letter, and the eye may have completely mastered the elements which compose it; and yet the hand may refuse to form it according to the prescribed model, or according to the idea which the pupil has in his mental vision. In such cases, and they occur with all beginners, the master must, with pains and patience, show the child how the pen is to be held, must occasionally guide the wavering hand, and must always smile on the faintest symptom of improvement. To form a straight line is the first essential in learning to write, and the child must learn to do this with considerable facility before passing on to more complex characters. When once any element has been mastered, care should be taken to introduce it to the writing lessons so frequently, that the pupil will run no risk of forgetting how to form it. The letters should be well rounded, and every effort made to secure legibility. We saw, when treating of reading, that some pupils would read with more taste and grace than others; but, that, while this was the case, all might be trained to read clearly and distinctly. And so it is in regard to writing. Some minds are so constituted as to have more accurate ideas of form and proportion than others; and such persons may naturally be expected to make the best writers. But this need not prevent all from learning to write legibly, and in such a style as to render their writing easily read by another; and this, after all, is the main thing to be attended to. Writing is not an end, but a means; and the more a teacher keeps this in view the more likely will he be to train his pupils to write well. In order, however, to secure this legibility, inspection and correction of errors are absolutely necessary.

Correction of Errors.

115. At the outset of a boy's career in writing, the master should, if time permit, examine each letter as it is formed; but on no account should the child write more than one line without inspection. Quantity is of no consequence as compared with quality. When one line has been written, the master ought to inspect it carefully, point out the mistakes that occur, compare the writing with the model, and show wherein the error lies. When these things have been done, the pupil should write the letter

again with special reference to the previous mistakes. The errors most likely to occur are the following:—

Want of uniformity in the thickness and depth of colour of the straight line.—This arises from an unequal pressure of the pen when forming the letter, and from an inability to guide the hand in its upward or downward motion. To remedy it, the point of the pen should be placed straight on the paper, the two sides of the nib resting equally on it. The right arm should rest on the desk in such a way as to leave the hand free to move.

Roughness of stroke.—This may be owing to a foul pen, bad ink, or, it may be, bad paper. If the defect arises from any of these causes it should at once be remedied, so that there may be no excuse for any defect whatever. It frequently arises, however, from an unequal pressure of the two sides of the nib, in which case the remedy occurs in holding the pen right. It also arises sometimes from pressing the pen too firmly on the paper, as if it were a graving-tool; when this is the case the remedy is easy.

Wrong inclination.—This may be remedied by the use of writing-books ruled as we have already described. When writing-books of the common kind are employed, the master should write one letter as a specimen at the beginning of each line, and occasionally, as circumstances require, he may write one in the middle of the line, which will serve to point out the mistake, and to guard against it for the remainder of the line.

Letters too tall or too short.—This may also be remedied by properly ruled writing-books.

Links and hooks too thick or too fine.—The thickness of these will depend to a certain extent on the thickness of the letter of which they form a part. Great care will be necessary in forming all the up strokes—the hand at first moving somewhat stiffly is apt to drive the nib into the paper, and to splutter the whole page. This arises often from having nothing between the page and the hard wood of the desk. Children should never be allowed to write except when several pages intervene.

Curve wrongly formed.—This arises from a want of a clear conception of the form. The eye has not been so accustomed to measure distance as to mark off at once where the curve should begin and where end. Artificial helps may be of service; but the black-board must also be called into requisition. In a given space two curves should be inserted—the one correct, the other wrong; and the children should be made to point out why the one is right, and the other wrong.

Letters not properly joined.—This is a very common mistake and must be most carefully guarded against. The point of junction of the several letters, and the means of junction, should be pointed out on the black-board. The use of the hook, link, and crotchet, should be illustrated; their respective positions, and the letters to which they severally belong be made clear, and examples given wherein the joining of the letters is correct, and wherein it is wrong. Each line in the writing-book should be examined with reference to this point, and a small mark put beside each mistake. Nor is this all—the pupil should be made to show wherein the error lies, and the reason of it, and thereafter to write the letter or the word correctly.

Form of the letters wrong.—We cannot lay down any rules which will remedy this error. Although the expression is somewhat vague, we can only say that time and pains alone will teach the correct forms of the letters. We may simply remark that it is not sufficient to tell the pupil that the form is wrong. The master must show him on the black-board in what respects it is wrong—must train him to recognise and to execute the correct form, and lead him to see the reasons for every step in the formation of each letter.

These are a few of the mistakes that are most likely to occur in writing. Many others will present themselves in practice, but we have done enough if we have pointed out how mistakes may be remedied, and in what way pupils may be made to write with neatness and legibility.

Current hand.

116. We have not deemed it necessary to make any special remarks on the writing of capitals, or on small writing. The principles we have endeavoured to lay down apply to all kinds of writing; and the main difference between small and large hand is one of *degree*, not one of *kind*. It would be well to accustom the pupils to write a good current hand. This is very much

overlooked in most schools. The exercises in writing are confined too exclusively to set formal lessons, in which caligraphy is the only thing aimed at. Hence it is very rare to find pupils able to write on paper to dictation with any degree of legibility. Indeed dictation on paper is seldom attempted. But surely this ought to be the object kept steadily in view. Reading is of use not merely because it enables the pupil to peruse the class-books used in school, but because it enables him to read with ease any book that may happen to come in his way. And so writing does not belong merely to the sphere of the artist, but is of use in that it enables one to represent rapidly and legibly on paper the thoughts that arise in his mind. And hence the acquisition of a clear, legible, current hand should be looked upon as the goal to which the instructions of the master and the efforts of the pupil tend. For this purpose, exercises in dictation should be given, and corrections made not only in regard to the spelling, but also in regard to the writing. "There should," says Willm, "be fewer lessons in caligraphy—one lesson a week, or at most two, for children under ten years of age, would be sufficient. In return there would be more written copies, and more dictation. Supposing that one or two pages of such dictation were written every week for three years, or from fifty to sixty pages a-year, the pupils would, at the end of that time, possess a volume of a hundred and fifty to two hundred pages, written by themselves, filled with useful knowledge, and to which they would attach some importance, from its being their own work." Such exercises are not only useful, nay, they are absolutely necessary, in teaching orthography; they also serve to accom plish the end of which we are now speaking, that, namely of giving children a current hand in school, so that, without break or interruption, they may pass from school to the actual business of life.

EXERCISES.

1. State the general principles of the method you would adopt in teaching writing.
2. Give an analysis of the characters used in writing.
3. Arrange these characters in the order of their complexity.
4. What kind of desks is most suitable for teaching writing?
5. Describe the kind of writing-books which you would prefer

6. Describe the proper position of the body, the paper, the fingers, and the pen when writing. What is the use of regulating the position?
7. State briefly but precisely what constitutes good penmanship.
8. State precisely what use is to be made of copies set on the black-board, of printed copies, and of copies set by hand in the children's books.
9. What errors are most likely to occur in writing, and how may these errors be corrected?
10. How may the teaching of reading, spelling, and writing be made to tell most effectually on each other?
11. What advantages flow from writing to dictation on paper?

CHAPTER XIV.—ARITHMETIC.

General Principles.

117. Philosophy has long puzzled itself to account for the origin of our ideas of number. With the ingenious speculations of philosophers, the teacher, in the actual practice of school-work, has nothing to do. It is sufficient for him to know that the human mind early acquires ideas of number, although he may never be able to give a rational and satisfactory explanation of those secret and hidden processes by which the infant mind attains its first notions on this subject. It is, however, of the utmost importance for him to study the first efforts of children in giving expression to their ideas on the matter, for these first efforts supply the key whereby he may unravel all the arcana of a branch of education, which, in too many cases, presents needless and well nigh insuperable difficulties to children. Nature is a true teacher; she has formed no foregone conclusions, according to which the human mind must be twisted and misshapen; and it is because teachers refuse to follow her instructions, and trust themselves to her guiding hand, because they endeavour to forestall nature's method, and to outrun her processes, that we have so many erroneous educational theories—theories which too frequently are sought to be reduced to practice. Of number, considered abstractly, children have no knowledge. All their ideas of number refer to the concrete. They invariably become acquainted first with the *thing*, and then with its *symbol*. They may be perfectly familiar with what is meant by *five apples*, but may be utterly ignorant of *five*, considered by itself. They can

easily tell how many boys are in the class, how many marbles are in their pocket, or how many playthings they have got; but with the representative numbers they are not acquainted. The reason is that children always associate number with objects—it has no meaning to them apart from things. They have never accustomed themselves to abstract number from the objects with which in their mind it is connected, and to view it as an independent mental entity. Such being the case, the absurdity of commencing to teach the symbols first, and thereafter the thing symbolized, becomes at once manifest; and yet this is the method, which, in regard to arithmetic, is too generally adopted. The pupils are required to learn abstract numbers, to perform operations upon them, and when, after many tears and many hard battles, they have become acquainted with the use of arithmetical symbols, they are set to apply them to the common objects of daily life. This is reversing nature's method; and hence we need not wonder that the acquisition of the multiplication and reduction tables has always been regarded as a work of such extreme difficulty, as to require some six months for its performance. When our Saviour would teach his disciples humility, he took a little child and placed him in the midst of them. Would that all, who are engaged in instructing the young, would read the lesson taught by this incident, and would learn to carry themselves back to childhood's simple days, that they might thereby be enabled to deal with children, as children, and not as men. If it be true that the early notions of children in regard to number are associated with objects, then it follows that we ought to introduce them to the knowledge of abstract numbers through the medium of objects which appeal to their senses. For this purpose every school should be furnished with a ball-frame, with a box of bricks, with the more common measures, and with a few plain figures, capable of being taken to pieces, so as to illustrate the nature of fractions. The teacher, however, need never be at a loss for objects so long as he has hands, fingers, books, slates, &c., of which there are more or less in every school. As the whole science of arithmetic is based on a few general principles, and as a boy can never become an expert or an accurate arithmetician from any system of technical rules, however carefully worded and committed to memory, the teacher should endeavour to familiarize him with these principles, and lead him on all occasions to form the rules for himself. Hence, even before the child has become acquainted with the processes of addition, subtraction, multiplication, and division, both simple and compound, as performed on the slate, he ought to be exercised frequently and systematically on all these rules by means of the objects which we have specified. In this way he will come intuitively to discover the principles for himself, and will run no risk of working a question by a happy accident. The addition and subtraction of money, of weight, &c., are generally taught as if they involved principles essentially different from the addition and subtraction of cows, marbles, &c. And accordingly, in most text-books on arithmetic, we find the compound rules introduced with a long array of formidable-looking tables, and verbose explanations, all of which tend to confuse, instead of guiding the pupil. Proportion, which is capable of being put in such a light that children of ordinary attainments and capacity can easily comprehend its principles, is frequently so much mystified, that the pupils are unable to solve a question unless they know the answer; while compound proportion is utterly beyond their comprehension. In like manner interest, discount, and such-like applications of arithmetic are considered such high attainments as to be beyond the reach of all, save the favoured few who, having remained at school some half-dozen years, have been rewarded by being taught the mystic art of calculating the interest on £100 for 5 years at 5 per cent. In regard to the order in which the various applications of arithmetic should be taught, we would advise the teacher not to follow blindly any text-book, but, making himself familiar with the fundamental principles of the science, and a thorough master in their various applications, let him present them to children in the order which he finds most conducive to their real progress. Having made these general observations, we shall now proceed to indicate briefly the method of teaching the fundamental operations in this branch.

First Lessons in Number.

118. Children before entering the school are generally able to count at least up to twenty. The first thing, accordingly to be done, is to exercise them upon what they already know, and to make

that knowledge the basis of future progress. Taking the ball-frame in hand, the teacher should lay off one ball, and cause the children to repeat *one ball;* then another ball, the children repeating *two balls*, and so on until they have reached the length of *ten.* In this way they are exercised in *units*, and come to see that each successive number is formed from the one preceding it by the addition of a like unit. To vary the exercise, one boy may be made to stand forward from the class, the children repeating *one boy*, then another and another, the children constantly telling the number, until they have learned thoroughly to understand the significance of *one*, *two*, *three*, &c., as applied to objects. Occasionally a boy and a girl may be made to stand forward alternately, and considerable amusement and profit will ensue from the efforts of the children to name their numbers correctly. Such an exercise as this last will at once lead them to see that two is made up of two units of the same kind, and that while one boy and one girl make *two objects*, they do not constitute *two boys* or *two girls.* This exercise may be varied at the teacher's pleasure, by the use of slates and books, shillings and coppers, or any two dissimilar classes of objects. Still further to familiarize them with these fundamental ideas, they should be made to count backwards as well as forwards—thus *ten boys*, *nine boys*, &c. Many school-rhymes might be made serviceable for effecting the same purpose ; and the benefit derived from such rhymes is two-fold. They deepen and consolidate the ideas of the children, and, at the same time, serve as pleasant recreation ; for it may be remarked here, once for all, that these exercises should be short and interesting, for if not, they will defeat the end they are intended to promote. In passing beyond *ten*, care must be taken to show to the eye that the numbers are formed by combinations of what they have already learned and ten. Thus for *eleven*, ten balls should be set off on one line, and one on another. Eleven is thus seen to be *one* and *ten.* In the same way twelve can be shown to be composed of ten and two, thirteen of ten and three, fourteen of ten and four, and so on through all the other numbers.

Use of Symbols.

119. The symbols for these simple numbers may be taught at this stage through the medium of objects. Thus one line is drawn on the black-

board, the children repeating *one*, then *two*, and so on. Under each of these series of lines, the symbolic number should be written, thus :—

| || ||| |||| ||||| |||||| ||||||| ||||||||
1 2 3 4 5 6 7 8

||||||||| ||||||||||
9 10

The children should then be taught to notice that, instead of writing down *nine* strokes for *nine*, we can employ the one symbol 9, which means nine lines, nine slates, nine fingers, &c. Only a few symbols should be given at a time; but exercises, similar to those mentioned in the following paragraphs, should be employed to render these symbols perfectly familiar. As we have already remarked, the children should learn the symbol through the thing signified, and not the object through the symbol.

Addition.

120. Having thus familiarized the children with these simple numbers and their symbols, the next step is to accustom them to add. For this purpose very simple questions must at first be adopted. Indeed it would be desirable to begin with the constant addition of *one*. Thus 1 ball and 1 ball are 2 balls—2 balls and 1 ball are 3—3 balls and 1 ball are 4, and so on up to 10. The exercise should be varied by the substitution of simple objects in place of balls. 1 marble and 1 marble are 2 marbles. Children, look at that window—it is made of glass, there are many—*panes of glass in it.* Now look at the top row—1 pane and 1 pane are how many panes ?—2 *panes.* 2 panes and 1 pane are how many panes ?—3 *panes*, &c. Slates, books, hands, forms, or any objects in the room, should be used, so as to keep up the interest, and prevent the attention of the children from flagging. Exercises of this kind prepare the way for more difficult ones. I have here 2 marbles, and here other 2—how many have I ? Or, putting down 2 lines on the black-board, and then other 2, ask the same question. Let the teacher go over the simple digits in this way, and, although it may seem a tedious process,

he may rest assured that he is laying the best possible foundation for a thorough practical acquaintance with numbers. Various questions may be put of an amusing and interesting kind. Thus holding up 4 fingers of one hand and 2 of the other—how many fingers are held up? Put 6 boys in one row, and 3 in another—how many boys are there? Put 4 boys in one row, and 4 girls in another—how many boys are there? how many girls? how many living creatures? In the excitement consequent on such an exercise, some of the children will, to a certainty, give a wrong answer, which the others will immediately correct. Put 7 books in one bundle, and 2 slates in another; how many books are there? how many slates? how many objects? After such exercises have familiarized the children with the addition of easy numbers, they should be required to break a simple number down to its constituent parts. Thus laying off on one line 5 balls, and on another 3, they should be asked how many must be laid off on a third line to make up the same number as the two lines contain. They will see that it will require 8. Thus then 8 is the same as 5 and 3. What other numbers would make 8? 6 and 2; 4 and 4; 7 and 1. Let all these answers be proved by actual operations on the ball-frame, so that the children may learn to take nothing on trust.

Subtraction of Numbers.

121. Simple exercises in subtraction should follow those in addition, and they should be exactly of the same kind. 10 balls should be laid off on the ball-frame, and 1 should be removed, then 1 ball from 10 balls will leave how many balls? 9 *balls*—for 9 balls and 1 ball will give—10 *balls*. The subtraction of the numbers successively from 10—thus 9 from 10—8 from 10, &c., and similar exercises should follow. The exercises should be varied like those in addition—thus, I have here 5 books and I take away 2—how many are left? I have 6 slates and I take away 4—how many are left? John has 8 pence in his pocket, and he gives James 5 pence for a knife—how much has John now? James's father had 7 cows, but he went to the market and sold 4 — how many has he? Such exercises, which the judicious teacher can multiply at will, tend to associate in the minds of the children the relation between arithmetic and the common affairs of life. After the simple processes of subtrac-

tion have been thus illustrated, more complex questions may be given; *e.g.*, exercises in double subtraction, thus, John had 9 marbles, and he gave 2 to James and 3 to Robert—how many had he left? Exercises in addition and subtraction, thus, James had 6 apples, he got 3 from Thomas and gave 4 to Alexander—how many had he left? Various applied exercises should always be systematically conjoined with these simple questions. For examples we refer the reader to Mr Tate's little work entitled "First Principles of Arithmetic," which is full of hints and suggestions of an exceedingly practical character.

Multiplication of Numbers.

122. Multiplication presents to children some difficulties which do not meet them in addition or subtraction. Being an artificial mode of shortening addition, it must be taught with reference to this. To familiarize children with the fundamental idea of multiplication, the teacher should write down lines on the black-board as follows, and cause the children to repeat the result:—

<table>
<tr><td>|| or 2 ones are 2</td><td>then 2 times 1 are 2</td></tr>
<tr><td>||| or 3 ones are 3</td><td>then 3 times 1 are 3</td></tr>
<tr><td>|||| or 4 ones are 4</td><td>then 4 times 1 are 4</td></tr>
</table>

and so on until the first line is familiar. Examples of various kinds should follow—thus, 4 boys have a slate each—how many have they all? The second line of the multiplication table should be gone over in the same way, thus:—

<table>
<tr><td>|| 2 ones are 2</td><td>then 2 times 1 are 2</td></tr>
<tr><td>|| || 2 twos are 4</td><td>then 2 times 2 are 4</td></tr>
<tr><td>|| || || 3 twos are 6</td><td>then 3 times 2 are 6</td></tr>
<tr><td>|| || || || 4 twos are 8</td><td>then 4 times 2 are 8</td></tr>
</table>

and so on until the whole has been learned. It is not meant that the whole table should be taught at once. Numerous examples of a simple kind should be given at each step. We can only indicate the nature of these exercises by one or two specimens, thus:—How many hands have 2 boys? 3 boys?

&c. How many hands and feet have 2 boys? 3 boys? &c. How many feet have 4 sheep? 5 sheep? How many halfpence in 1 penny? in 2 pence? &c. Jessie went to the baker's for 4 loaves; each cost 3d—what did she pay? Find the cost of 3 whistles at 2d each, and so on. To decompose or resolve numbers into their factors, the simplest plan is to arrange the number in various forms. Thus, for example, to decompose 12, arrange the number as follows:—

$$1.\ \left\{\begin{array}{l} |\,|\,|\,|\,|\,| \\ |\,|\,|\,|\,|\,| \end{array}\right. \quad \text{that is, } 6 \times 2 = 2 \times 6 = 12.$$

$$2.\ \left\{\begin{array}{l} |\,|\,|\,| \\ |\,|\,|\,| \\ |\,|\,|\,| \end{array}\right. \quad \text{that is, } 4 \times 3 = 3 \times 4 = 12.$$

The children should be made to arrange counters, marbles, bricks, or any such thing in rectangles like the foregoing, and from these to deduce their factors. Such exercises will be both instructive and amusing. After some little dexterity has been thus acquired, questions like the following should be proposed. How many fours are there in 12? How many threes? twos? sixes? &c.

Division of Numbers.

123. As multiplication is a short method of addition, so division is a short method of subtraction. To render the children familiar with its fundamental principles, such questions as the following should be proposed. Here are 3 boys, I wish to divide among them 6 apples—how many will each get? In this class there are 6 girls, and I have 12 apples—how many will each get? When the mind is thus prepared for understanding the nature of the work, the multiplication table, as given in last paragraph, should be referred to, and used as follows:—

||	2 ones are 2	the half of 2 is 1
|||	3 ones are 3	the third of 3 is 1
||||	4 ones are 4	the fourth of 4 is 1

The second line should be gone through in the same way, and questions proposed; *e. g.*, how many twos are there in 8? How many apples at 1d each can I buy for 4d? How many at 2d each for 6d? for 8d? &c. 4 whips cost 8d—what is the price of 1? 3 loaves cost 9d—what is the price of 1? We need not multiply examples—the judicious teacher can easily form them for himself. The only caution we deem it necessary to give is that the questions proceed systematically from the extremely simple to the more complex. There must be no effort to over-drive the child. He must learn to creep first, then to walk. The questions must also be sufficiently varied to give interest to the work. Sameness is tiresome to any, but especially to the young. The earnest teacher should accordingly see that he conscientiously prepares for the junior classes questions suited to their capacity, and of a kind to interest them. In some such way as we have mentioned, the fundamental principles of arithmetic may be pleasantly and effectually communicated to children.

Fractional Numbers.

124. The limits of this work prevent us from entering at great length into the various processes of arithmetic. We must content ourselves with a few hints, leaving the student to fill up the outline which we present to him. Fractions, in their simplest form, should be presented to the minds of children at an early age, and in a way exactly analogous to that in which whole numbers have been taught. The peculiar and technical phraseology of this part of arithmetic ought not to be taught until long after; but children can as easily understand what is meant by *half* an apple as they can what is meant by two apples. In order to familiarize their minds with the fundamental ideas of fractions, such questions as the following may be put:—I have an apple and I cut it into two equal portions, what would you call each portion?—*a half.* Then this apple can be divided into how many halves? Into how many halves could I divide an orange? a pear? &c. How many halves in this pencil? book? board? How many halves in 2 apples? in 3? in 4? &c. If I were to divide this apple equally among 3 boys, what must I do? how much would each get? If among 4, how much would each get? Now here is half an apple, and I divide it among 2 boys, how much of the half does each get? How much of the whole? Very likely this question would not be answered. An easy demonstration of it would consist in dividing a whole apple into two,

then each half into equal portions, and the children would at once see that one half of half an apple was exactly the same thing as one fourth of the whole apple. We may remark that tangible ocular demonstrations of all problems should be presented to the children at this stage. The teacher need be at no loss for objects. If he cannot lay his hand on apples or oranges, he can easily obtain potatoes or small turnips, and the one will serve the purpose as well as the other. After exercises like the foregoing have rendered the pupils familiar with the elementary ideas of fractions, they should be led to add, subtract, and multiply fractional numbers:—thus, 2 halves and 1 half are how many halves? 3 fourths and 4 fourths? 4 fifths and 6 fifths? A boy has three half apples, and gives 1 half to his neighbour—how many halves has he left? how many *whole* apples? If I were to give one boy 6 fourths of an apple and another boy two fourths—which would have more? how much more? how many *whole* apples more? If no answer were given to this question, divide an apple into fourths, then place 4 of these together and the demonstration is complete. Take 4 tens from 6 tens; 8 tens from 9 tens; 2 hundreds from 3 hundreds, &c. The advantage of these questions is that they accustom the children to some of the most important processes in arithmetic, and in a way too which presents no difficulty to a thorough understanding of the nature of the operation. It is seen that to add 4 fifths and 3 fifths is as easy as to add 4 marbles and 3 marbles. By the ordinary method of beginning with long strings of abstract definitions, it is not too much to say that comparatively few children ever attain to a clear understanding of the arithmetic of fractions. Multiplication may be taught in the same way. 6 boys got half an apple each, how many halves had they all? how many *whole* apples? in 3 apples how many *halves?* then in 6 half apples—3 *apples.* Let the questions be varied by the use of various objects. The teacher can lay the whole school under contribution in this respect; pencils, desks, slates, forms, even the children themselves may be occasionally selected as the object, more especially when they begin to fag; for the idea of dividing a boy into two, three, or four parts will be very ludicrous to children, and their hearty laugh will constitute a first-rate physical exercise.

Application of Number to Value.

125. Children should early be made acquainted with the applications of number to the practical business of life. With this view, each school should be supplied with the more common measures, the use and correct application of which will furnish a never-failing source of instruction and amusement. The first and most important application of number is to money. Whether a decimal system of coinage would facilitate money-calculations or not, is a question which we are not here called upon to discuss. Children can be taught to make calculations on our present system with ease and rapidity. The four leading coins—the sovereign or, in Scotland, the pound—the shilling—the penny and the farthing—should be presented to the children, and their relative values pointed out. It can easily be shown that 1 penny is equal to 4 farthings, that 12 pennies go to make a shilling, and that 20 shillings are equal to one pound or sovereign. This may be illustrated by various questions, in which no principles are involved save those already familiar to the children. How many farthings are in 1 penny? How many half-pence? If John has 2 pennies, how many farthings would you require to give him for them? how many half-pence? John has 4 pennies and James has 8? how many have they between them? Can you name one coin that is equal to what the two have? How many pence in 1 shilling? in 2? in 3? &c. How many pence in 4 farthings? in 8? in 9? &c. How many shillings in £1? in £2? in £3? &c. How many pounds in 20s? in 30s? in 40s? &c. John goes to the grocer's and buys 3 ℔ of sugar at 6d a ℔, how much should he bring home out of 2s? When these ordinary coins have thus become familiar, and when the children have learned to çalculate with them with correctness and rapidity, the other coins used in business transactions may be introduced, such as the threepenny piece, the fourpenny, the sixpence, the crown, the half-crown, and the florin: and exercises similar to the foregoing prescribed. We need not wait to remark that, long before these exercises have been gone through, the pupils will have become thoroughly acquainted with the table of money, and that too in such a way that it will be impossible for them to forget or mis-apply it. The same observation holds good regarding all the tables; and we shall merely point out in a word or two how they may be practically acquired.

Application of number to Linear Measure, &c.

126. The table of linear measure, or rather the application of number to linear measure, can be illustrated with as much facility as that of money, provided only the teacher has the requisite apparatus; which, as it is so simple, no teacher need be without. It consists of a few *inch* measures, one or two *foot* measures, and one or two *yard* measures. It will not be necessary at this stage to carry the pupils beyond the yard measure. These three measures should be compared by actually laying them alongside of each other, by drawings of them on the black-board, by causing the pupils to make such measures for themselves, and by accustoming them to measure linear distances. There would be little difficulty in showing them that it takes 12 inches to make one foot, and 3 feet to make one yard. In the same way in order to illustrate the application of number to weight, the school should be furnished with the more common weights, such as the oz., the half-oz., the ℔, &c., and a pair of scales. The application of number to square measure, measure of capacity, and of time, may be taught exactly in the same way.

The Decimal Notation.

127. The exercises noticed in the previous paragraphs, if conducted systematically, and with a due regard to the attainments of the pupils, will have prepared the way for the study of slate arithmetic. And let no one imagine that the time spent in these preliminary exercises is useless. We believe that a great part of the difficulty which so often attends the study of this branch on the part of the young, arises from the fact that they are not rendered practically acquainted with the elementary portions of arithmetic. The first thing to be done in slate arithmetic is to give the children clear and correct notions of the decimal system of notation. As this system, which is remarkable for its extreme simplicity and beauty, is entirely a convention, the teacher cannot reason it out with his pupils, as he would a theorem in geometry. He must explain and illustrate, by many and familiar examples, the principle on which the convention is technically based. He must teach the pupils the meaning of what is called the *local* and the *absolute* value of the figures. To have a character for each number would be well nigh an impossibility, for the memory would fail to retain them all. But as,

in reading, a few simple characters can be made to represent every variety of spoken language, so, in arithmetic, the nine digits and the cipher, with all of which the pupil is already familiar, can be made to represent any number, however large. The numeration of tens and units comes first in order. Ten marks may be written down by themselves in one place, and two in another. We have thus 1 ten and 2 units, but 1 ten and 2 units make 12. Thus the figure 1 when placed to the left of another is increased in value ten times. How should I write down in figures the number thirteen? 13, which means 1 ten and 3 units, or thirteen. And so on, up to 20, when the same process should be repeated. Two children might be requested to hold up each his ten fingers, and one, three fingers. We have thus 2 tens and 3 ones; but 2 tens and 3 ones make 23. Again, suppose we had a box of pencils, and we proceed to count them. We tie them up in bundles of ten, and find we have 6 such bundles, and 3 single pencils remaining. We have thus 6 tens and 3 ones; but 6 tens and 3 ones make 63. In this way the representation of numbers from 1 up to 99 can be easily illustrated. We have at this point to show how to represent numbers higher than 99. The same process must be again gone over, and the children taught that to put a figure two places to the left increases its value one hundred times. We need not repeat the exercises: they are identically the same in nature as those employed in teaching the numeration of tens and units. When once the child has become familiar with the method of representing hundreds, tens, and units, the numeration of higher numbers is easy. For some time, however, it will be desirable not to proceed beyond thousands. Exercises in tens and units, hundreds tens and units, thousands hundreds tens and units, should be given, so as to render the child perfectly at home in the decimal system of notation. These exercises will prepare the way for a clear understanding of the method in its application to higher numbers. We shall indicate briefly the nature of these exercises, reminding the teacher that he must be able to give simple exercises, without the assistance of any book, with great readiness, and in sufficient variety to interest the pupils.

Simple Exercises in Addition.

128. The exercises may be of the following nature. Add together 32 and 43. Here we have 2 units and 3 units, which make 5 units, and 3 tens and 4 tens, which make 7 tens, so we have 7 tens and 5 units, or 75. Add together 243 and 325. Here we have 5 units and 3 units, which make 8 units, 2 tens and 4 tens, which make 6 tens, and 3 hundreds and 2 hundreds, which make 5 hundreds. We have thus 5 hundreds, 6 tens, and 8 units, or 568. Add together 5s 4d and 4s 3d. We have 3d and 4d, which make 7d, and 4s and 5s, which make 9s, or we have 9s and 7d. Add together 4 feet 3 inches, and 3 feet 4 inches. We have here 4 inches and 3 inches, which make 7 inches, and 3 feet and 4 feet, which make 7 feet, or we have 7 feet 7 inches. Exercises of this nature can be varied to any extent; and by means of them, the pupil will become familiar with the mode of representing in figures what he has already been taught to do mentally. Practical questions should at once be prescribed, in order to lead the pupil to see that arithmetic is no abstract barren science, but one of the utmost utility, and necessary to the most common transactions of life. Such questions as the following should be written on the black-board, and the pupils made to solve them. A boy spent in the grocer's 7s 6d, and in the baker's 8s 4d, how much did he spend altogether? John paid 5s 8d for a jacket, and 3s 2d for a vest, what did he pay for jacket and vest together? James sold 6 ℔ 8 oz. of sugar to one boy, and 8 ℔ 3 oz. to another, how much did he sell altogether? This room measures 30 ft. 6 in., the class-room 15 ft. 4 in., what is the length of the two together.

tens	units
3	2
4	3
7	5

hundreds	tens	units
2	4	3
3	2	5
5	6	8

s.	d.
5	4
4	3
9	7

ft.	in.
4	3
3	4
7	7

Simple Exercises in Subtraction, Multiplication, and Division.

129. The exercises in subtraction, multiplication, and division should be precisely of the same nature as the foregoing. We shall

give one example under each head. Take 28 marbles from 39 marbles. Here we take 8 units from 9 units, and we have 1 remaining, also 2 tens from 3 tens, and we have 1 ten remaining. We have thus 1 ten and 1 unit. But 1 ten and 1 unit make 11. Multiply 24 by 2, or take 24 two times. Here we have 4 units taken 2 times, which gives us 8 units, and 2 tens taken two times, which gives us 4 tens, we thus have 4 tens and 8 units. But 4 tens and 8 units are 48. Divide 48 by 2. Here we have to take the half of 4 tens, which is 2 tens, and the half of 8 units, which is 4 units; so 48 divided by 2, or the half of 48, is 2 tens and 4 units. But 2 tens and 4 units are 24. Practical examples similar to those in addition should be written down on the black-board by the master, and solved by the pupil. A merchant had 14 ℔ 8 oz. of tea, and sold 6 ℔ 4 oz. of it; how much had he left? A woman had 3 baskets containing butter, each basket contained 4 ℔ 2 oz.; how much did the 3 baskets contain? I have here 12 ft. 9 in. of cord. If I divide it equally among three boys, how much will each receive?

tens	units
3	9
2	8
1	1

tens	units
2	4
	2
4	8

	tens	units
2)	4	8
	2	4

Slate Arithmetic Classification.

130. We have now arrived at the point where most text-books in arithmetic begin, and we do not deem it necessary, or indeed compatible with the design of this manual, to go over each of the rules in detail, and explain the principles involved in it. The student will find this done to his hand in many, nay, in almost all, the text-books in most common use. We may merely refer him to the works of Tait, De Morgan, Colenso, and Barnard Smith, in any of which he will find the principles of arithmetic unfolded, with a clearness and precision which leave nothing to be desired, and any attempt of ours to set them in a clearer or more perspicuous light would only have the effect of increasing the bulk of a work, which is intended mainly to give hints on the mode of teaching, which experience and observation have proved to be successful. We shall, accordingly,

confine our remarks to one or two general observations which may prove of service to the young teacher. And first, before any progress can be made, it is necessary to have the pupils thoroughly classified. We have alluded to this subject in a previous chapter, but we return to it on account of its extreme importance. If the student is entering on the charge of an entirely new school, or of a school which has been long in operation, he must turn his first attention to classification. A school of about 100 pupils may, as we observed previously, be divided into four arithmetic groups. Each of these groups will be sub-divided into divisions corresponding to the attainments of the pupils; but one person can easily superintend all the subdivisions of any one group. During the arithmetic hour, the pupils who are working sums from the text-books, or from the black-board, can be arranged in the raised benches, and superintended by the pupil-teachers; while the master retains the class-room for special instruction in the principles of the science. As we observed in a previous chapter, the elucidation of all principles should be regarded by the master as his own peculiar sphere of duty; whilst the acquisition of accuracy and expertness in calculation may be entrusted to the pupil-teachers. Great trouble and inconvenience arise in school from the fact that children very generally have their own slates, which they carry with them to and from school. It is advisable to have in every school a stock of slates, the property of the managers, for the use of which a trifling sum might be charged along with the ordinary school fee every quarter. In raised benches there are generally racks for holding the slates; and, when this is the case, each pupil should at the end of the hour be required to deposit his slate in its own place. When there are no racks, the slates should be given out and collected in the same way as the writing-books; and two of the pupils should be regularly appointed every week to take charge of their distribution and collection. A few lessons will easily train the pupils to pass the slates from the one to the other, with great rapidity and with perfect precision. Before beginning any lesson, the superintendent should see that all the slates are clean; and, in order to secure this, each slate should have a small piece of sponge attached to it. At the commencement of the lesson, a monitor, appointed for the purpose, should pass along each bench, carrying a small vessel filled with clean water, in which each pupil dips his sponge. On no account should the pupils be allowed to drop saliva on their slates, or to rub them with their sleeve, or any other part of their dress. When the slates are thus prepared, all the pupils should be required to show their slate-pencils, and, at a given signal, the work commences. These preliminary exercises do not occupy so much time as we have taken to describe them, and they contribute very materially to form and cherish habits of cleanliness and neatness.

Instruction in Principles.

131. No new rule should be entered upon until the pupils are familiar with the principles involved in it. In order to render them familiar with these principles, the master must do something more with them than merely read the rules as given in the text-books. These rules may be very good, and the illustrations given may be most apposite, but they will not compensate for the living voice and the off-hand illustrations of an earnest master. Accordingly, the master should make it a point to go over each rule with his scholars, giving illustrations on the blackboard, questioning the class as he proceeds, and endeavouring to ascertain what may be the points of difficulty in the minds of his pupils. Indeed it is not too much, perhaps, to say, that those scholars turn out the best arithmeticians, who have been taught all the principles by oral lessons, and who have had no text-books in their hands, save one containing examples for solution. In order, however, that the master may be thus able to supply the place of a text-book, he must make himself perfectly familiar with arithmetic, by a careful study of such works as we have named in last paragraph. We shall give two specimens of such oral lessons, adapted to different stages of progress.

EXAMPLE I.—ADDITION.

On the assumption that the pupils have been thoroughly drilled in the elementary parts of arithmetic, as detailed at length in the first part of this chapter, we would proceed as follows. Having arranged the pupils in order in the class-room,

4	3	2	6
8	9	4	7
6	3	2	1
8	4	5	9
6	2	3	1
34	2	8	4

and seen that all were attentive, we would read the first line slowly and distinctly thus—Four thousand, three hundred, and twenty-six. We would then ask them what figures we should employ, in order to represent the number. How many figures? which first? second? &c. After writing the number down on the black-board, such questions as the following might be put:—What does the 6 stand for? what the 2? How many times is the 2 greater than if it occupied the place of the 6. Read 26. Could you write it down in any other form? (20 + 6). What does the 3 stand for? How many times is it greater than if it occupied the place of the 2? of the 6? How could I represent three hundred and twenty-six otherwise? (300 + 20 + 6), &c. When the first line has been gone over in this way, the second line should be read, and the pupils made to tell the symbolic figures. These figures should be written at first on a separate part of the board, and each figure examined as in the first line. When this has been done, such questions as the following might be put. What does the 6 in the first line stand for? and the 7 in the second? the 2 in the first? and the 4 in the second? &c. Now do you think it would be easy to add these lines as I have written them? (yes). Well, with two lines it might be easy enough, but if I had written a number of lines, would it be easy? Can any boy show me how he could make it easy to tell which figures stood for units, and tens, &c.? Exactly, by writing units under units, tens under tens, and so on. Well let us write the second line under the first. Where should I place the 7? the 4? the 9? the 8? You see now that you have 7 units under—6 *units*, and 4 tens under—2 *tens*, and so on, just as if you had some pounds, shillings, and pence, what would you do? (keep the pounds by themselves, and the shillings and the pence by themselves). The successive lines should be dealt with in a similar way. We are now in a position to add. John, would you add the first line. 1 and 9 are 10. 10 and 1 are 11. 11 and 7 are 18. 18 and 6 are 24. We write 24 down on the black-board, and train out from the children that 24 is the same as 2 tens and 4 units. We accordingly place the units under the column of units, and we add the 2 tens to the column of tens. Each line should be added up and dealt with in the same way. It is evident that such cross examinations as these will do more to train the child to add, than the most carefully worded rule. After two or three such exercises have been gone over, the pupils should be required to work a sum by themselves on their slates. At the end of the dictation of each line, all the pupils should show their slates, that the master may see whether they are taking down the sum correctly. When the pupils have solved it, it should be gone over on the blackboard, and their answer examined. In the event of any being wrong, care should be taken to discover the mistake, and to point out the cause of it. This must be done at first individually—simultaneous instruction in arithmetic is very deceptive.

EXAMPLE II.—INTEREST.

Very generally the only directions given to the pupil, when he comes to questions on interest, are, "Multiply by the rate per cent. and by the number of years, and divide by 100," while he knows nothing of the meaning of the terms, or of the reason of the rule. In order to render questions of this class so very easy, that a boy of eight or nine years of age may work them with a perfect understanding of the principles involved, all that is necessary is to make him acquainted, by familiar illustrations, with the exact meaning of the terms, and with the work to be done. For this purpose, oral instruction is needful. Having the class seated and in readiness, the teacher shows the pupils that money is a marketable commodity. A man has some horses, which he has no present use for, and he lends them out to his neighbour who requires their service. Would he do this for nothing? What would he expect for the use of his horses? Now if the man lent money to his neighbour, would he likely give it for nothing? He would expect—*something for it.* His neighbour might say, I'll give you so much for the loan of £100 for a year. What he thus receives for the loan of his money, is called *interest.* The etymology of the term might be given, and then its technical meaning would be still clearer. Now then you see that *interest* means what I receive for the loan of money. Can any boy tell me what *cent.* stands for? yes, it stands for—*centum*, which means—*one hundred.* The interest is always calculated at so much for every hundred pounds, but instead of always saying—*for every hundred pounds*, we use the Latin words *per cent.* Now then, when I say that I receive 5 per cent. for my money, what does that mean? It means that I receive £5 for the loan of every hundred pounds—for what length of time? This must be explained and made clear. Well if I receive £5 for the loan of £100, how much should I receive for £50? for £25? for £20? for £10? for £1? If I receive £5 for the loan of £100, how much should I receive for £150? for £200? for £250? for £300? &c. If £100 will yield me £5 in one year, how much will it yield in six months? in 4 months? in 3? in 2? in 1? in 2 years? in $2\frac{1}{2}$? in 3? Such questions will lead the pupils intuitively to see the nature of the rule, and future progress will be safe and easy. Having thus prepared the way, the next thing is to train the pupil to form the rule for himself, which may be done in this way. Suppose the following question given out —What is the interest upon £36 at 4 per cent.? Every hundred pounds yield how much? £4. What then would £1 yield? The hundredth part of £4, *i. e.*, £$\frac{4}{100}$. Now, if £1 yields £$\frac{4}{100}$, what would £36 yield? 36 times £$\frac{4}{100}$, *i. e.*, £$\frac{36 \times 4}{100}$ = answer. Various questions of this nature should be solved on the slate, and thereafter such a question as the following given—What is the interest of £42 for 4 years at 3 per cent.? How much does £100 yield in 1 year? £3. How much will £1 yield in 1 year? £$\frac{3}{100}$, and therefore £42 will yield in one year £$\frac{42 \times 3}{100}$. Well, if it yields this much in one year, how much will it yield in 4 years? 4 times £$\frac{42 \times 3}{100}$, *i. e.*, £$\frac{4 \times 42 \times 3}{100}$ = answer. Simple examples of a similar kind should be wrought, and the pupils will soon see the reason of the rule, and that, too, in a way which they are not likely to forget. A very little training will lead the pupils to form for themselves the general formula, $i = \frac{p. r. t.}{100}$, from which the various terms may be easily deduced.

These examples might be multiplied to any extent—we must, however, forbear; trusting we have done enough to show the thoughtful student how he ought to proceed in work of this description.

Text-Books. Mode of Working, &c.

132. We shall conclude this chapter with a few general observations on arithmetic, which could not have been well introduced into any of the preceding paragraphs. We have already mentioned some text-books which the student may very profitably consult; in regard to text-books for the use of the scholars, he should select those which consist mainly of well-arranged exercises.* With beginners nothing but exercises will be required, for all explanations should be given orally on the black-board; but with more advanced pupils, works containing an elucidation of principles, along with problems, may be employed. In a subject where text-books can be reckoned by the score, it may appear invidious to name any one book rather than another. We may, however, refer to such works as "Colenso's Arithmetic for National Schools," and "Barnard Smith's Arithmetic," as coming up to what we deem such books ought to be. The first of these works contains a very large number of carefully prepared and practical exercises, well suited for the junior classes in elementary schools; while the second,

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* A well-selected book of exercises is of much value to the teacher of a mixed school. We can cordially recommend a little work of this kind, which is used in the Practising Schools of the Glasgow Free Church Training College, "Manson's Progressive Exercises in Arithmetic for Junior Classes," price 6d. Simpkin, Marshall, & Co., London.

from its clear enunciation of principles, and its admirable selection of problems, may, with great advantage, be put into the hands of advanced scholars. In addition, however, to the examples which occur in the text-books, the teacher should collect questions from various sources, suited to the proficiency of each class, for the purpose of testing their knowledge. These questions should relate to matters of practical importance, and should involve no principle which has not been previously explained. In working these, and indeed all arithmetic questions, the pupil should be tied down to no stiff formula, or mode of operation, but should be left to exercise his own ingenuity. He should be trained to observe carefully the conditions of the problem; and then set to work it out. The question may belong to what is technically called the "Rule of Three," but it would be a serious mistake to cause the pupils to work all questions embraced under that comprehensive rule by the method of ratios. Let the pupil work it in his own way, and the benefit to himself will be ten-fold greater than if he blindly followed the mere rule of his text-book. An immense number of the questions, falling ordinarily under the head of "Proportion," "Interest," "Discount," "Profit and Loss," &c., may be wrought when once the pupil can operate with the compound rules, provided only the terms employed be made plain. Thus, for example, the question—"If 9 oxen cost £63 10s. 6d., what will 45 cost?" requires no formal stating, as the term is, but can be wrought by multiplication. In all cases of this nature, the pupil should be required to work the questions in various ways, so as to test his knowledge of the conditions implied in it. "The advantages to mental discipline of arithmetic thus taught are very great. Its tendency is to give clear ideas, and a full perception of the relations between symbols, thoughts and facts. It accustoms the mind to habits of investigation, and weakens the tendency to take things on trust, the truth of which is within its reach. Some of its simplest problems, if given for investigation, may be made matters of severe discipline. The practice of verifying the results by a different process from that by which they were obtained, tends to produce an exact mind. As there are various methods of reaching the same result in many cases, originality and invention are promoted, and the higher problems aid concentration of mind; the mind being put on full stretch to reach a certain end, and yet from the very nature of the process it is able to keep its attention down to the point that happens to be before it."* These observations apply with special force to arithmetic considered as a branch of female education. It is the only branch which, in their case, at all makes up for the mental discipline which the opposite sex receive from the study of mathematics and the dead languages. And yet there is scarcely any part of their education which is more neglected. Dreary hours, and months and years are cheerfully spent in teaching a girl, who has no ear for music, a few tunes on the piano—the practice of which she will desist from, as soon as she enters on the cares of wedded life; while a branch of education, which would give the female mind that concentration and that training which it requires, is overlooked and neglected. Oh the tyranny of fashion, what slaves it makes of us!

EXERCISES.

1. Explain fully how you would give Elementary lessons in Arithmetic.
2. Show how you would teach the multiplication table, and the tables of weights and measures.
3. How may children be best taught the nature of fractions?
4. What instructions would you give a Pupil-Teacher who had to superintend an Arithmetic group?
5. On what principles would you classify your pupils in arithmetic?
6. Explain each step of the process in working a question in one of the following rules—Addition, Subtraction, Multiplication, Division.
7. How far should the principles of arithmetic be taught orally?
8. Write the notes of a lesson on Proportion, Interest, the Addition of Vulgar Fractions, &c.
9. What is the use of arithmetic as a means of mental discipline?

CHAPTER XV.—GRAMMAR.

Grammar.

133. Grammar is a modern branch of elementary education, and has not even yet obtained that place in school curriculums, to which, from its importance, it is so justly entitled. And even in many cases where it is taught as one of the necessary parts of a liberal

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* "Gill's School Management," p. 103.

education, and where pupils are made to pay very handsomely for the accomplishment, the instruction is so meagre and so redolent of empiricism, that it is questionable whether it serves any beneficial end in developing and training the mind. This, at least, we know, that no branch of school education is so generally considered by children a plague and torment as grammar. The reason is that it is too often taught as if it consisted of a set of dry rules, which have been huddled together in confusion worse confounded, for the express purpose of loading the memory, without enlightening the understanding. A text-book, containing wretched definitions, and useless rules, is put into the hands of the children. These rules and definitions they are compelled to commit to memory, and he who can repeat them with the glibbest tongue is, forsooth, the most accomplished grammarian. Children, who have never received a single analytic lesson on grammar, are set to learn the fact that grammar is divided into four parts, viz.:—Orthography, Etymology, Syntax and Prosody. Need we wonder that these unmeaning terms, meeting them at the outset of their career, give them a distaste for the whole subject—a distaste which is increased by the mode in which each of these parts is treated. It humbly appears to us that the text-books of grammar, constructed, as they almost all are, on the synthetic plan, have, however admirable in themselves, done a world of mischief, inasmuch as they have led teachers to imagine that the synthetic method, while perhaps the best form in which a treatise on grammar could be written, is also the best form of presenting it to the mind. But it has been forgotten that, in teaching, analysis must precede synthesis—that it always does, in the nature of the case, precede it, and that it is only when the analytic process has been gone through, that the synthetic comes in, and arranges into system the facts which the former had collected. For a very considerable period, children should be taught grammar orally, and, we might say, incidentally. They should learn it somewhat in the same manner as they learn to speak, and not, as is generally the case, as they learn to read. They learn to speak, not from set formal lessons, given by the parents or the nurse, but, to a large extent, from imitation of words and sounds frequently repeated in their hearing. Now so it should be in respect of grammar.

Instead of presenting them with a scientific treatise, containing a logical development of the principles of grammar, beginning with the letters and ending with sentences, the teacher should, by means of short oral lessons, familiarize them with the simple truths of the subject, and thereafter introduce them to the systematic study of it. Where the former plan is adopted, the teacher has no basis to work upon—he is endeavouring to accomplish a task nearly as difficult as it would be to teach children to read who had never learned to speak. But when they have learned to recognize first the *thing*, and thereafter the *scientific term*, grammar becomes an important intellectual exercise, and a first-rate means of training and developing the mental powers. It will follow from these observations that, instead of giving the children abstract definitions, the result of a wide generalization, and requiring them to find words that fall within the terms of the definition, they should be presented with the individual facts, and led to form the generalization for themselves. "Technical terms should be carefully avoided, till the child has become familiar with the nature and use of the things designated by them, and he is able to use them as the names of ideas which have a definite existence in his mind, and not as awful sounds, dimly shadowing forth some mysteries of science into which he has no power to penetrate."

Method of Teaching Grammar.

134. Persons who have not reflected much on the subject, are apt to reverse the order in which grammar and language stand to each other—to imagine that abstract rules of grammar were first contrived, and that thereafter language was constructed on these rules; whereas grammar, from its very nature, flows from an examination of those laws which are found to obtain in language. The naturalist does not first devise systems of classification, and, after having elaborated these in his brain, then go out upon the world of nature, and endeavour to discover whether the facts found there will square with his preconceived system. He takes the world of nature as he finds it, and, making choice of a dividing line in the shape of characteristic and innate differences found in the different objects around him, he classifies them accordingly. So it has been in the process of eliminating the laws of grammar. The Gram-

marians have gone out upon the field of language, and, by a rigid process of analysis, have compelled it to render an account of the laws which regulate it. We believe that a method exactly similar should be followed in teaching grammar. The child should be presented with language as it exists, should be led to examine it for himself, to observe the purpose which the various words in it subserve, to note the use of terminations or inflections, and thus he will be prepared to enter on the scientific study of the subject. It would be no difficult matter, as we shall endeavour in this chapter to show, to arrest the child's attention on the fact that some words are used for one purpose, others for another; that some are employed for the purpose of naming objects, while others are employed for the purpose of affirming. We would not tell the child that this difference existed, but, by giving him numerous examples of the different classes of words, we would train him to observe the difference, and afterwards to give expression to it. So also by calling the child's attention to the difference in form, as written, or in sound, as spoken, between the terms *boy*, *boys*, it would be easy to show him that there must be a difference in *meaning* corresponding to the difference in *form*. What idea does the letter *s* add to the idea conveyed by the word boy? The child's interest is aroused, his understanding is exercised, and grammar becomes both pleasant and profitable. This analytic method of teaching grammar will not only give the child a truer conception of what grammar is than the synthetic mode; it will also beget in him the all-important habit of seeking to discover beneath external differences of form, corresponding differences of meaning—a habit, on the strength of which depend, more than on almost anything else, the intellectual differences existing among men.

Order of Teaching Grammar.

135. Before proceeding to apply the foregoing observations to details, it may be well to point out the order in which the facts of grammar should be studied. Following the analytic method, we would first endeavour to teach children the classification of words, that is, to give them the power of distinguishing *one word from another*. By this means we give them the analysis of language into what are technically termed the parts of speech.

This would be our first course. Having done this, we would in the next place select one of these parts, *e. g.* the noun, and analyse it into its *subdivisions*, teaching them to distinguish *words of the same class from one another.* Having gone through all the parts of speech in this way, we would return upon each, and take up its *inflections*, teaching them to distinguish the *parts of words of the same class from one another;* and, lastly, we would teach them the construction of the word, or *its place in the sentence.* The following table of the noun and the verb, which the reader can easily apply to all the other parts of speech, will exhibit, at a glance, the various steps to be followed in teaching children to parse any of the parts of speech:—

LANGUAGE.

NOUN.

1. Classification.
2. Subdivisions.
    - *a.* Proper.
    - *b.* Common.
    - *c.* Collective.
3. Inflections.
    - *a.* Number.
    - *b.* Case.
    - *c.* Gender.
4. Use in Sentence.
    - *a.* Subject.
    - *b.* Object.

VERB.

1. Classification.
2. Subdivisions.
    - *a.* Transitive.
    - *b.* Intransitive. — Subdivision based on difference in the *nature* of the verbs.
    - or,
    - *a.* Regular.
    - *b.* Irregular. — Subdivision based on difference in *form.*
    - or,
    - *a.* Strong.
    - *b.* Weak. — Subdivision based on difference in *form.*
3. Inflections.
    - *a.* Voice.
    - *b.* Mood.
    - *c.* Tense.
    - *d.* Number.
    - *e.* Person.
4. Use in Sentence.
    - Predicate.

In the following paragraphs we shall follow the course which we have thus sketched.

The Noun. First Stage.

136. Suppose I wish to tell one of you to remove this (pointing to a chair), how would you understand what I meant? very well by touching it, but if I were standing away from it, how could you understand me? By mentioning the name of it—by telling you to remove —*the chair.* Now let us write down the word *chair* on the black-board. Is that which I have written down the chair? no it is—*its name.* When I use the word chair, you know what object I mean. Now let us write down the *names* of some of the objects in the room—*map*, *slate*, *book*, *&c.* If you all had the same name, would you know which of you I meant when I named one of you? No; what would I have to do in that case besides naming you? Yes, I would have to point to—*the one I meant*, or have some way of marking the one off from the other. So it is with the objects in the room, each has got a name, and when I mention the name, you know which one is meant. Now are there any objects out of this room, any in the play-ground, the street, the shops, your houses, &c.? You see that a large number of words are used as the—*names of objects.* Now in the lesson which you have just read, point out to me some words which are the names of objects. Such a series of illustrations would give the children some adequate idea of the fact that many words are employed as names. Such words we might term *name-words*, but instead of name-words, we employ the one term *noun.* When this has been clearly explained and pictured out to the minds of the children, they should be required to perform such exercises as the following:—write down the names of all the objects in the room—in the play-ground—in your own home—in the grocer's window. Select all the words used as names in your last reading lesson—in such a page—paragraph, &c. For reasons to be seen immediately it is advisable to have these exercises written on paper.

The Verb. First Stage.

137. As it is of importance to exercise the children from an early period in the construction of short sentences, and as this cannot be done until they are acquainted with the verb, we would introduce it to their notice immediately after the noun. Taking up the lists of nouns which they had collected in the manner detailed in

last paragraph, we would ask them to tell what one of them does. Thus the word dog occurs: can any of you tell me anything which a dog does? He *barks*. Did any of you see a dog this morning as you were coming to school? Well, what was he doing? He was *running*, *walking*, *barking*, *&c*. Now we shall write down these words on the blackboard—*run*, *walk*, *bark*. Did any of you ever see or touch a *run?* No, it is not the name of an object, but it tells us what any object does. Now if I say—*John sings*, which word tells me what John is doing? Which word in the following—*Mary dances—James reads—Thomas sits—the chair falls—the sun shines?* These exercises will serve, not to give the children a perfect notion of what is implied in the very general term *verb*, but to give them an approximation to its true definition, which is all that is necessary to be done at this stage. Exercises will follow. Write after each word in your list of nouns something that it does. These exercises will occupy several lessons, and each should be examined with the special view of ascertaining if the children have predicated of the subject an action suitable to its nature. Thus, should the subject be *crow*, and were any of the children to write—*the crow dances*, it should be shown that whilst *dances* expresses an action, it is an action not predicable of the crow. It is obvious that exercises of this nature, if judiciously given, and scrupulously corrected, will furnish the best practical preparative to composition. When the exercises have been examined, the pupils should be required to analyse them—thus —*the dog runs*—What runs? The first word tells you the name of the object—that about which you are writing—*the subject*. What is the dog said to do? The second word tells you what the first—the subject—does. You have affirmed something regarding the dog—now another word which means the same thing as affirmed is *predicated;* so that I might say you have affirmed or—*predicated* something regarding the dog. Because the word *runs* predicates something it is sometimes called *the predicate*. The noun might thus be called the *subject*, and the verb the *predicate*. Now write down on your slates six subjects, and six predicates. These exercises can be repeated and varied according to the necessities of the case.

The Adjective. First Stage.

138. Children, have you ever seen a rose? Were all you have seen of the same colour? No, they were of various colours. Mention some of the colours. You must give me one at a time, and have patience till I write them down. *White*, *red*, *black*. One boy says *black*. Did any of you ever see a black rose? No, there are no—*black roses*. Now when I tell you that I saw a rose, would you know of what colour it was? But if I said that I saw a *white* rose—then you would know—*its colour*. Which word would tell you its colour. Now here are two books, are they both of the same size? The one is large, and the other is small. If I were to tell you that I went to the top of a hill last evening, would you know what kind of hill it was? But if I should say, it was a *high steep rocky hill*, then you would know something—*about the hill*. Which words would tell you the kind of hill? Now you see that these words which I have written down all tell us something concerning the noun. Would you write down six nouns—or as we may call them—*subjects*—on your slates? Write before each some word that tells us something regarding it—its kind, its quality, or its size. Well, let me examine your slates—the subjects are—*man*, *boy*, *fish*, *cat*, *tree*, *house*, and the words added are—*the cruel man*, *the little boy*, *the pretty fish*, *the large cat*, *the green tree*, *the splendid house*. I shall now give the whole class six subjects, and you will write down something concerning each, and also a word telling what it does—you remember what name you give such words—yes, we call them—*verbs*, or *predicates*. It is needless to repeat these examples. The judicious teacher can easily form them for himself, and by thus mingling instruction with practice, and by giving the children a knowledge of the thing, and not an unmeaning string of technical terms, he will render the study of grammar both pleasant and profitable, and will introduce it so gradually to the minds of the children, that they can have no difficulty in studying it systematically from some well-constructed text-book. The remaining parts of speech should be illustrated after the same method. The adverb could be easily shown to perform to the verb the same function as the adjective does to the noun. Thus, in the sentence, *the lion roars loudly*, the word *loudly* tells us how, or in what way, he roars. Other examples would impress its

nature on the minds of the children; and they should have exercises prescribed to them, with the express view of eliciting to what extent they practically understand its application. The ordinary reading-books may be conveniently and profitably employed as exercise books. The pupils may be required to point out all the nouns, adjectives, verbs, and adverbs occurring in the lesson. Short sentences may be analysed—thus—*the strong lion growled fiercely.* What is spoken of here? What part of speech is lion? What do you affirm of the lion—*that he growled.* What part of speech is *growled?* What kind of lion was it? How did he growl? What part of speech is *strong? fiercely?* A subject should be given, and the children required to construct such short sentences as the foregoing. The exercise should be varied by giving them in turn a predicate, an adjective and an adverb, and causing them to construct short sentences with the prescribed words introduced. The pronoun, the conjunction, and the preposition should be treated in the same way. By the time the children have gone over such an initiatory course, and it would require at least one year to go over it thoroughly, they would have acquired a considerable acquaintance with the fundamental facts of grammar, and considerable expertness in the composition and analysis of short simple sentences.

Second Stage.

139. The second stage, which, in our opinion, ought to be kept quite distinct from the former, would embrace an examination into the various subdivisions of the parts of speech, and a fuller acquaintance with the structure and analysis of simple sentences. The training through which the child will have passed during the course of the first stage, will enable it to comprehend with considerable ease the nature of nouns, proper, common, and abstract; of verbs, transitive, and intransitive; of adjectives, numeral, and attributive, &c. Whereas had all these subdivisions been introduced in the elementary lessons, the child would have become confused and bewildered by the multitude of separate generalizations presented to it. We would, accordingly, reserve the subdivisions of which we are now speaking, until the child was familiar with the leading outlines. We would follow the same plan as the anatomist, who would examine the skeleton first as a whole,

then its leading parts, and thereafter each part in detail. In this stage, we would commence as before with the noun, and would extend our former definition so as to embrace not only the objects of sense, but also things which we can conceive of in our minds as existing. Some nouns are always employed to distinguish one and the same thing, others are employed to designate each individual of a class, and others again those things, which, although they may have no existence apart from objects, we still can conceive of as existing. These three main subdivisions should be handled in the same way as the simple noun—exercises prescribed, sentences written and analysed, until the pupil has learned thoroughly to feel and to know the distinctions between the various classes of nouns. The verb, the adjective and the adverb should be similarly dealt with, and this would prepare the way for the third stage—embracing a consideration of the inflections of the parts of speech.

The Noun.
Third Stage.

140. In order to make children familiar with the meaning of number as applied to nouns, we would adopt something like the following plan. What is this which I hold in my hand? an apple. What have I now? two apples. Now let us write these words on the black-board, (apple—apples.) Do you observe any difference between the words as written? *The one has an s, which the other has not.* Is the *s* at the beginning or the end of the word? What is the use of the *s?* Let us see if it is ever used in the same way in other words. Here is the word *hat.* How many would that mean? But if you went into a hatter's shop, you would see a number of *hats.* Here you have the *s* again; what is its use? Can you give me any other words in which the letter *s* is used in the same way? Book, books, boot, boots, bird, birds, slate, slates, &c. So then when I wish to speak of more objects than one, I add an *s* to the name of the object. When I have only one object, its name is said to be in the *singular number*, but when I have more than one object of the same kind, its name is said to be in the *plural number.* Do you think is the plural formed from the singular, or the singular from the plural? Can any of you tell me then how you would form the plural of a noun. Very well, *the plural is formed by adding an* s *to the singular.* The

plural is not always formed in this way—look at this word—*miss*, if there were several young ladies what word would you use? (miss-es.) What have you added? Why? You remember I told you that you could not sound two similar letters coming together. Sound *mis*, sound *miss*. What is the use of the second *s?* Exactly to show that *i* is short. Well, if I added yet another *s*, what would you have? (misss.) Would that show it was plural? yes, to the eye, but not to—*the ear*, because the last *s* could not be sounded. So to make the plural manifest to the ear as well as to the eye, we add—*es*. The other exceptions to the general rule should be dealt with in the same way, and when these have been all examined, the rule, as stated above, should be modified to suit the exact circumstances of the case, and the exceptions classified in order. Gender and case should thereafter be introduced, and their nature and meaning illustrated.

The Adjective. Third Stage.

141. You remember what is the meaning of the word *adjective*. What part of speech is it always joined to? Now here are two pointers—they both have length, or you might say that both are long. Let us write down the word *long*. Are they both of the same length? The one is not so long as—*the other;* or you might say, the one is—*longer*—than the other. Let us write down the word *longer*. Do you observe any difference between the two words? What syllable have you added to *long?* You see then that when I compare the two pointers in regard to *length*, I say the one is *longer* than the other. The word *longer* is used when I institute a comparison between the two pointers. If I had three, all of different lengths, you would say that while the second was longer than the first, the third was *longest* of all. Let the word *longest* be examined, and the addition made to the simple form pointed out. Other examples of a like kind should follow—three lines of unequal lengths, three boys of different heights, three books of different sizes, and so on, and the children will have little difficulty in understanding why adjectives undergo inflection, and in what the inflection consists. In fact they will easily form the rule for themselves. When these simple and, what we may term, regular forms have been taught, the few irregular ones should be noticed, and the children led to see that comparisons may be

represented not only by the addition of a syllable to the simple form of the adjective, but by the use of separate words, such as *more*, *most*, *less*, *least*, *very*, *&c.* The point to be clearly impressed is, that, as the human mind constantly institutes comparisons among the objects brought under its cognizance, so language—the garb in which the mind clothes its thoughts, must have some method of representing these comparisons. All through this stage, the attention of the children should be directed to the relation subsisting between the forms which language assumes and the workings of the mind. The distinction between notional and relational words may be pointed out, and it may be shown that as the human mind works substantially in the same way under every diversity of clime, and in every age, so the grand leading characteristics of any language will be analogons to those of all languages. In this way, grammar will be raised above the region of mere dogmatic rules, and be shown to have its foundation in principles as stable and as unchanging as the laws which regulate our mental operations.

The Verb.
Third Stage.

142. The English verb has few inflections, but by means of what are termed auxiliaries it can express all the relations of time, mood, &c., with great accuracy and precision. Very considerable confusion of ideas often arises in the minds both of teacher and pupils, from a comparison of our language with those which are strictly and purely terminational. Thus, it is often said that the English verb has only two tenses, the present and the past, and that, as compared with the Latin verb, it is very defective. But this is owing, not to any real defect in our verb, but to the fact that we employ auxiliaries, where a terminational language would have recourse to inflections. The young teacher will, accordingly, do well to divest his mind of the idea that we can have no tense unless we have a corresponding inflection to express it. Tense may be expressed without inflections at all; and, indeed, scarcely any of the English tenses is expressed by means of inflections. Tense is the expression, *in some form or other*, of the time in which an action is performed. All actions must be performed at some point of time, either present, past, or future; and, accordingly, a language which is in any degree perfect will have *forms*

whereby to express these times. The forms may vary according to the genius of the language—one may employ auxiliaries, another may use inflections, but, however the forms of expression may differ, the forms themselves will exist. The Latin verb may denote futurity by an inflection, the English verb by the use of an auxiliary, but both languages, and both alike, possess forms whereby futurity may be distinctly marked. In giving children correct notions of what is meant by tense, the teacher must bear these remarks in mind. He should endeavour to show the children that all actions must be performed in time, and that we must have some mark or sign whereby the time may be indicated. Just as the hands of a clock are employed to indicate the hours of the day, so, in verbs, tenses are employed to indicate the time of the performance of the action. To make this clear to the understandings of the children, a short sentence or two should be written on the black-board—*e. g. The stars shine*, *The stars shone.* It would be an easy matter to lead the children to explain in what circumstances we use the one expression, and in what the other. They are already practically acquainted with the difference between the meaning of the two expressions ; and, in common conversation, seldom make a mistake in the use of the correct form of the verb. Both expressions, it might be shown, affirm the same action of the stars. But why then the difference in the form of the two expressions ? Why is the one *shine*, the other *shone ?* The difference arises from the fact that the same action is predicated of the stars, but occurring at different times. The difference of form is the measure of the difference in time. Other examples should be given, and the pupils made to point out the exact difference in them ; and for this purpose it would be well at first to select those parts of the verb which possess a difference in form expressly to indicate time. Thus, if the sentences were, *The star shines*, *The stars shone*, there is a difference of form indicative of number as well as of time. These differences should be treated of separately. When the present and past tenses have been thus explained, the attention should be directed to the future. If I say, *the stars will shine*, I still predicate the same action of the stars, but why do I use the word *will ?* The children would at once see the reason, and would answer that, although the action be the same, another change of time has taken place. With somewhat advanced pupils, the reason why we use *will*, as a sign of futurity, might be explained. Will denotes simple volition. Actions flow from acts of will. But the willing to do a thing must be prior to the doing of it, or, in other words, the performance must be future in reference to the willing. So it is in regard to the other sign of futurity *shall*, which literally signifies *to owe*. The payment of a debt must be future in reference to any one moment whatever in which it is still due. The exact use and force of adverbs of time might be well illustrated at this stage. The marks hitherto spoken of indicate time in a somewhat general way; adverbs of time fix it down very specifically. In the same way, at a still later period, the compound tenses, as they are sometimes termed, should be explained. While time divides itself naturally into the three great divisions, present, past, and future, the state or condition of the action in each of these times may and does vary. Hence arise perfect and imperfect tenses, which terms, it could be easily shown, relate not to the time of the performance of the action, but to the state of the action in any given time. We have entered somewhat minutely into this part of the subject, from a conviction that it is often needlessly darkened to the minds of children, and that the ordinary method of presenting them with a complete scheme of the verb, which they are obliged to commit to memory, almost invariably defeats the very end it is intended to serve. We are strongly of the opinion that we ought to take up the language as it is used in conversation, or as it is found in books, and lead the pupils to analyse it into its elements, and thus to form rules for themselves. We would follow the self-same method in treating of mood, of person, and of number Thus in regard to number we would write down two such sentences as, *The star shines, The stars shine.* The difference in form is manifest. The same action is predicated in both cases, and the time is the same. Why then the difference? The action in the one case is predicated of *one star*, in the other of *many*. So then the difference in form is a sign of a difference in number. But the difference in number is indicated by a difference in the form of the subjects regarding which the action is predicated, and why then is there also a difference in the form of the verb? Should such a question as this be put by any boy, let not the teacher decline to answer him, or tell him to hold his tongue. We are approaching the deep things of grammar —it is widening and deepening as we advance, and we throw out these hints more with the view of suggesting to the young teacher the absolute necessity of his being a thorough adept in grammar, if he would teach it to any purpose, than of exhausting the subject. The remaining parts of speech, in so far as they are declinable, should be dealt with in a similar way. We have thus brought the pupil through one of the most important parts of grammar; we have, in the first place, taught him to distinguish one class of words from every other class; in the second place, to divide each class into its leading subdivisions; and in the third place, to notice the various inflections which the words in each class undergo, in order to express the different relations which we may conceive them as possessing.

Structure of Words.

143. Having thus classified and subdivided the words in our language, the next step is to lead the pupil to trace their history as developed in their structure. In dealing with the structure of words, we would follow the same methods as we have adopted in their classification. Starting with the language as it is, we would, by means of analysis, exhibit to the pupils the mode by which a word may pass from one class to another by the addition of one or more syllables. Thus in the words *sing*, *singer*, it could be shown that, by the addition of *er*, a word denoting an action comes to denote the agent or doer of that action. Other examples should be noticed as they occur, and, after a little time, the pupils should be required to write down all the words of the class which they can remember. The same plan should be followed with such terminations as *ar*, *ard*, *ster*, *&c.* When these simpler structures have been explained, more complex ones should be introduced, such as *sing*, *song*, *feed*, *food*, *&c.*, in which the change in meaning is produced, not by the addition of a syllable, but by an internal change in the word. After the structure of the noun has been illustrated, that of the adjective, verb, &c., should be considered; and when the pupils have been once made familiar with the subject in its leading outlines, it should then be presented to them

in systematic order, and they would thus be enabled to prosecute the study for themselves, to any extent they might desire. In some such way as we have pointed out, this branch of etymology might be studied with much advantage, and the pupils put on the safe and sure road of becoming, if not profound, at least accurate, philologists. The method we suggest would not make a great show on examination days, but, if any of our readers considers the end of teaching to consist in mere *demonstrativeness,* we advise him to shut the book, as we have got nothing to say to him. No school curriculum, however sound it may be, or however long carried on, can do more than initiate the pupil into the secrets of each branch of education; and, accordingly, the main point for consideration should be, not how much of this branch can I communicate, but in what way shall I teach it, so that the pupil may, afterwards, prosecute the study of it with ease and safety. This last consideration is too often entirely overlooked, and hence we find teachers expending their efforts, not in training and developing the mind, but in vain attempts to fill it with empty facts—the mere husks of knowledge.

Syntax.

144. Etymology concerns itself with words considered individually; syntax has reference to the laws which regulate words when combined so as to form sentences. But, in order to a thorough understanding of these laws, it is necessary that we know first what a sentence is; and hence it would seem advisable that the analysis of sentences should precede the study of syntax. Indeed the laws of syntax are deducible from such an analysis, and from such alone. The works of Mr Morell leave nothing to be desired in regard to the systematic treatment of this part of grammar; and as these works are, or at least ought to be, in the hands of every teacher, we shall restrict ourselves to one or two observations. And, first, we must call the attention of the young teacher to the principle on which Mr Morell's "Analysis" is drawn up. It is arranged on the synthetic or constructive method. Starting with notional words, he combines these so as to form the simplest possible sentence, and shows how, by the constant addition of words in certain given relations, the most complicated sentence may be developed from the most simple.

But in order to this constructive process, the analytic process was necessary. The living body of language was first taken to pieces, and, in the work to which we are referring, we see bone coming to bone, and sinew to sinew, until at length we have the same living body standing before us, complete in all its parts. Now, we advise the teacher, in commencing this branch of grammar with his pupils, to begin with analysis. Let him present them with several simple sentences, as they occur in their reading books, and let him train them to analyse these sentences into their elements, and only when they have thus become somewhat familiar with the subject can they enter with advantage on the construction of sentences. All we require of the teacher is that he knows *how to use* the text-book. Let him lead his pupils to the threshold of the book by the same road as that over which the author travelled. They can thus enter on its precincts with understanding, and may even penetrate into its innermost recesses. We simply require the teacher to train his pupils to do with language what they do instinctively in the case of a complex toy. They examine it as a whole, thereafter take it to pieces, and finally they attempt to reconstruct it. In Mr Morell's work the complex machine—language—is taken to pieces for the children, who are presented with the elements, and told to reconstruct them into a whole. A systematic treatise could have been arranged, perhaps, on no other plan, but he who wishes to teach children to analyse sentences must teach them to analyse sentences, and not merely to construct them. When this work of analysis is going on, the rules of syntax can be gradually introduced to the notice of the pupil. The fundamental laws of syntax are few, and it would be well to illustrate and explain these fully and clearly, before entering on the consideration of those rules which are peculiar to the English language. The first rule, relating to the agreement between the subject and the predicate, can be explained by means of practical examples. By a brief induction the pupils may be led to notice the law that, when the subject is plural, the predicate must be plural also. It will at once follow that the rules regarding two singular subjects connected by *and*, or separated by *or*, as well as those relating to nouns of multitude which convey unity or plurality of idea, are useless and burdensome to the memory.

What the children have to consider is, whether the subject, be it composed of one word or more, is singular or plural in signification, for this, more than its form, determines the number of the verb. The same remark is applicable, with equal force, to the other fundamental laws of syntax. After each rule has been explained, the children should be required to construct short sentences with the special view of showing whether the nature of the rule has been clearly understood. The common plan of restricting their attention to examples of false syntax has the tendency of familiarizing them with the very forms which we desire them to avoid. Frequent exercises in composition, intermingled with occasional specimens of false syntax will soon teach a pupil to write his own language correctly, in so far, at least, as the grammar of it is concerned. In the course of the analysis, and during the elucidation of the laws of syntax, the classification of words, according to the functions which they discharge in a sentence, might be brought under the notice of the pupil. For a clear exposition of the principles on which this classification is based, the reader is referred to the works of Dr Latham, which are worthy of careful perusal by all who desire to become acquainted with the history and structure of our language.

Parsing.

145. Parsing should commence with the earliest lessons in grammar. The extent to which it is carried will depend on the stage of progress which the children have reached. Various tables for parsing have been proposed. We would suggest that the child should, first of all, assign the word to its proper class; secondly, distinguish it from other words of the same class; thirdly, distinguish it from the same word in different relations, *i. e.* point out its inflections; and, fourthly, give its position in the sentence. Such a plan of parsing furnishes, at one view, the grammatical history of the word, and secures accuracy and order in our thoughts. As a specimen we may parse the following sentence, in which we shall employ the ordinary phraseology, that there may be no mistake as to our meaning:—*Homer's poems have a general air of truth.*

PARSING.

WORD.	CLASS.	SUBDIVISION.	INFLECTIONS.	CONSTRUCTION.
Homer's	noun,	proper,	sing. mas. pos.	by poems
poems	noun,	common,	plu. neut. nom.	to have
have	verb,	transitive,	ind. pres. plu. 3rd per.	governing air
a	article,	indefinite,		qualifying air
general	adjective,	attributive,		
air	noun,	common,	sing. neut. obj.	by have
of	preposition,			showing relation between air and truth.
truth	noun,	abstract,	sing. neut. obj.	by of

We may remark that in actual practice it will be needless to parse more than once, words which frequently occur in the course of the lesson. By this means a considerable saving of time will be effected. When any rhetorical or involved sentences occur, causing difficulty in the way of parsing, the pupils should be made to transpose them into what is termed the natural order, and the difficulties will generally vanish. At first the auxiliaries should be parsed as principal verbs, but after some expertness has been gained, they should be parsed simply as auxiliaries, used in forming our compound tenses. These remarks, it is hoped, may be of some service to tyros in teaching.

Correct Use of Language.

146. "Grammar," it has been well remarked, "may be looked upon as embracing the power of using the English language, in speech or writing, with ease, freedom, and correctness, and an acquaintance with the mechanism of words and sentences. The former of these acquisitions is by far the more valuable of the two, and the latter is to be chiefly prized as it serves to impart a complete practical mastery over the language, although it also con-

tributes to mental culture." * "If the object of grammar," says Horace Mann, "is to teach children to speak and write their native language with propriety, then they should be practised upon expressing their own ideas with elegance, distinctness, and force. For this purpose their common every-day phraseology is first to be attended to. As their speech becomes more copious, they should be led to recognize those slight shades of distinction which exist between words almost synonymous; to discriminate between the literal and the figurative; and to frame sentences in which the main idea shall be brought out conspicuously and prominently, while all subordinate ones—mere matters of circumstance or qualification—shall occupy humbler or more retired positions. Grammar should be taught in such a way as to lead out into rhetoric as it regards the forms of the expression, and into logic as it regards the sequence and coherence of the thoughts. If this is so, then no person is competent to teach grammar, who is not familiar at least with all the leading principles of rhetoric and logic." These observations open up a wide and interesting field, on which we cannot enter. We must content ourselves with walking round it, and calling attention to one or two of its more prominent features.

Every Lesson should be an Exercise in Language.

147. Much may be done in the course of every lesson, on whatever subject it may be, to secure correctness and purity of expression. We have glanced at this subject before, when treating of "Examination." As it falls, however, more properly under the head of grammar, we shall make one or two remarks upon it. Every answer given by the children should contain a complete proposition. In the absurd excitement, which, with too many, is considered essential to a teacher's success, and which so strongly characterises much of our modern education, it is well nigh impossible for the teacher to attend to the forms of expression used by the pupils. His object is to get *ready* answers, no matter in what language uttered. This is altogether a radical defect—a foul blot on the otherwise fair face of most of our educational processes—a canker which gnaws the very vitals of the great

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* "Prize Essay on Education," by the Rev. David Smith, A.M., Lecturer on English Literature, Free Church Training College, Glasgow.

bulk of the instruction communicated in schools. Every lesson should be a practical illustration of the correct use of language, but this cannot be the case unless the master allows his pupils time to *reflect* on the substance of the answer, and on its form. In these answers, whenever it appears that a boy has caught the correct idea, but has failed fully and clearly to express it, he should be assisted in finding the proper word; the terms employed by him should be shown to be deficient, and the word or words in which the deficiency lies should be examined, and their meaning compared with the correct expression. In this way, each day's lesson, on any subject whatever, would be a practical lesson on language, and these lessons, repeated for several years, would render the pupil acquainted with the exact meaning and force of a very considerable portion of the words in the English language. Again, in analysing the reading lessons, many opportunities will occur of pointing out the meaning and correct use of words, and these reading lessons should all tell most effectually on the study of grammar in this its highest aspect. Should, for example, the word *natural* occur, its primary meaning, as determined by its derivation, would first be given. It could be shown, however, that the word has acquired various secondary meanings, all connected, more or less, with the primary one. Thus it is used as the opposite of "artificial," and in scripture as the opposite of "spiritual." We need not multiply examples. The analysis of the reading lessons should, as was shown in a previous chapter, have reference both to the matter of the lesson, and also to the words in which that matter is expressed. This second and subsidiary part of the examination will furnish daily occasions of training the pupils to the correct use of words.

Composition.

148. Whilst the plans we have suggested will be of material service in leading children to use language correctly, actual composition will be necessary to give them complete mastery over forms of expression. We cannot here write a treatise on composition—we must refer the reader to works professedly on that subject. We may remark, however, that the teacher's great aim in composition ought to be to educe the individuality of each child. How little this is attended to in text-books on composition, must be

obvious to all who have examined them with any care. The whole art of composition is reduced to a set of dry formal rules, and the pupils are compelled to write in accordance with these rules. But it is forgotten that writing is merely the garb of thought, and that two individuals, whose thoughts move in different channels, cannot be expected to write in the same style. Hence it were desirable that pupils were encouraged, to the utmost extent possible, to embody in writing their own ideas in their own way. We may rest assured that if a boy has got anything to say, he will find some mode of breaking the silence, and, inasmuch as that mode will be the product of his own individuality, it will contain a charm and a freshness which it could never have attained, had it been stretched on the Procrustean bed of stilted pedantic rules. In all composition exercises, accordingly, the prime necessity is to see that the pupil has something in his mind which he desires to express in words. "O that my tongue could utter the thoughts that arise in me," should be the composer's motto. Too often it happens that the complaint might be reversed—the tongue has the power of utterance, but there are no *thoughts* to utter. The exercises at first should be extremely simple—short descriptions of familiar objects, the substance of short stories read in the hearing of the class, abstracts of the lessons used in the daily reading-books, intermingled with short biographies, real or imaginary, would furnish an almost inexhaustible stock of themes. At a somewhat more advanced stage, literal paraphrases of poetical or prose extracts, would afford excellent opportunities of testing the pupil's command of words. These paraphrases should be conducted on the same method as translations from one language to another. The passage selected should neither be expanded nor contracted, but translated word by word into different but equivalent terms, in so far as the idiom of the language will permit. There is scarcely any exercise better fitted than this, if judiciously conducted, to give the pupil accurate and fixed ideas on the exact meaning of words. The skilful teacher can easily make choice of suitable passages, and can form exercises at will, accommodated to the proficiency of his scholars. After each exercise has been written, it ought to be examined with special reference to the form of expression. The words employed to express the ideas meant to be conveyed should be rigidly tested, the epithets analysed, and their correctness weighed in the balance of good taste, and thereafter the ideas themselves scrutinized as to their being sound or unsound. The connection and mutual relation of the various parts should be considered; and what we may term the lights and shades of the composition should be noticed, and care taken that the pupil puts into the foreground what is meant to be impressive, while he throws into the background those parts which, though necessary to the composition as a whole, are not intended to be so prominent. While composition taught in this method would serve the purpose of giving the pupil a practical acquaintance with the language, and a thorough mastery over it, it would, at the same time, serve as an admirable means of mental training. Scarcely one faculty of the mind but might be brought into play—conception, imagination, the reasoning powers, reflection, might all be exercised, in such a way as to conduce to the separate cultivation of each, and the harmonious development of all. The formal study of rhetoric or of logic does not fall within the limits of an elementary school education, and we shall make no remarks upon them here; the teacher, however, would derive much benefit from a careful study of some of the standard works on these subjects, in any of which he will obtain many valuable hints and suggestions, which he can turn to good account in the daily business of school.

EXERCISES.

1. In what order ought children to learn to distinguish the parts of speech?
2. Describe the successive steps in teaching children to parse the noun, the verb, the adjective, &c.
3. Compare the teaching of grammar with that of arithmetic. Why are children able to understand the one at an earlier age than they are able to understand the other?
4. What peculiar advantages belong to grammar as a subject of elementary instruction?
5. How can the teaching of grammar be made of use in teaching children to write correct English?
6. To what classes would you give instruction in grammar, describing the course and methods which you would pursue with each?
7. What are the advantages of composition as a subject of elementary instruction?

CHAPTER XVI.—GEOGRAPHY.

General Principles.

149. Geography, as a branch of elementary education, has never yet attained its proper position. The reason of this is owing to the fact that, instead of linking itself with all the natural sciences, it has dwindled down into mere topography—into a knowledge of locality as determined by the map. We do not, by any means, under-rate the value and importance of a correct knowledge of locality—it is essential in its own place; but we do think that topography and geography are not identical—that the one comprehends the other and a great deal more, and that children may be able to give the exact position of all the leading towns in the world, and after all be little the wiser for the knowledge. But if the subject matter of geography, as commonly taught, be thus limited in its range, the mode of teaching generally adopted is still more defective. It is, in some respects, radically and fundamentally unsound, which can only be accounted for by the undue prominence accorded to the synthetic method. In all education, the point of commencement is the stand-point of the learner. The foundation, on which we must build, is the knowledge, however limited it may be, possessed by the pupil. Starting from that as our centre, planting our foot firmly on the child's present attainments, we can branch out in all directions and to any length, provided only we keep hold of our central position. We must always select as the base of operations that which the child actually knows; and from that base we can make excursions into the enemy's territory on the right hand and on the left, and bring in manifold trophies of our prowess. But if we heedlessly neglect the base supplied by nature, we shall soon find ourselves cut off from all communication with head-quarters, and whatever acquisitions we may make will be of a desultory and transient nature, and will often retard instead of promoting the great object we have in view—the harmonious and symmetrical outgoing of all our powers. This all-important principle in education is wofully neglected, and in no branch of instruction is the neglect of it more apparent

than in geography. Instead of leading his pupils from the region of the known to that of the unknown, the teacher generally begins with the unknown, and finishes with the known. Instead of commencing with the objects around them which are familiar to them, and which, on that very account, possess a strong interest for them, he generally sets out from a description of the wide wide world, and ends with an account of home. He begins with the cope-stone of the building, and terminates with the foundation. That this is no exaggerated description of the ordinary mode of procedure must be obvious to any one who considers the nature of the lessons which occupy the front rank in elementary geographical text-books. These first lessons treat of the solar system, with its sun, its planets, and their satellites; from these they pass on to consider the earth, its form, dimensions, and motions; introducing to the notice of the children such terms as poles, axis, meridian, zones, &c.; terms of which they can form no conception whatever. By a process of disintegration, the earth is divided into land and water; the land into continents, the continents into countries, the countries into counties, and the counties into parishes; and it is by thus setting out on his travels from the sun, that the boy at length arrives at his father's cottage, and is allowed to look on the varied prospect of hill and dale, lake and river, which that cottage commands. We need not wonder that geography, taught in this way, busies itself with *words* to the exclusion of *things*, that it degenerates into a simple knowledge of unmeaning sounds, which may be repeated over and over again without calling up one single picture before the mind's eye. The correct method would be the exact reverse of what we have thus briefly described—it would take up the child at the exact point which he has reached when he commences this study; it would lead him to observe the various features of the little world bounded by his own horizon; it would discourse to him, in simple but expressive terms, of its hills and valleys, its rivers and lochs, its waste moorlands and green fields, its birds and beasts, its flowers and trees, its minerals, the pursuits and occupations of the living men who inhabit it; and having thus led him to observe what was about him and around him, and to give expression to his observations in articulate language, it would gradually train his mind to stretch beyond the bounds of the visible, and to use what was seen as the medium of becoming acquainted with what was unseen. The pupil would thus have his mind stored with geographical ideas, and would be prepared to enter on the formal study of the subject with intelligence and understanding. In the following paragraphs we shall endeavour to give a few hints on the order of study and the mode of instruction.

The Cardinal Points.

150. The elementary lessons in geography should be incidental, and, while each should be complete in itself, it is not necessary that all should be logically connected. What should be aimed at in these first lessons is to train the child to *observe* the forms and aspects of familiar objects and their relation to one another—in short, to arouse and fix his attention on what is ever before him. In order to this, the four cardinal points should be determined, and the child led to refer the position of places to them. They may be fixed in an easy, and, at the same time, practical manner in the following way. The child may be told to observe the position of the sun at 12 o'clock. He is then south ; standing with our face to the sun at that hour, we are looking to the *south*, our back is turned to the *north*, the right-hand to the *west*, and the left-hand to the *east*. These marks will determine for us the cardinal points with sufficient precision and accuracy, and having thus learned the correct interpretation of the names given to these points, the children will understand what we mean when we speak of one place lying to the east of another and so on. These technical terms, clearly apprehended, will constitute short and most valuable formulæ, whereby much needless repetition will be saved.

Elementary lessons on Mountains.

151. Mountains form the back-bone of a country—they determine, to a large extent, the course of its rivers, the position of the towns, the occupation of the inhabitants, and the climate. Accordingly, the early lessons in geography should commence with these. The rising ground in the neighbourhood of the school might be selected as the type of all mountains. Its peculiar form might be pointed out, and its height compared with that of some known object. Children have very loose and vague ideas of

distance and height, and to tell them that such a mountain is 1000 feet high, may give them the knowledge of an isolated fact, but conveys no true idea of height to their minds. They must have some standard of reference. Their own height, compared with that of the master, of the ceiling, of the roof, will lead them to form correct conceptions of relative and absolute heights. The height of the school, compared with that of some chimney-stalk, the height of the latter, compared with that of the nearest hill, will lead them to form comparisons which will be of essential service in their study of this branch. Having thus given them some idea of the height of the rising ground, we would next notice its covering, whether of grass or heath, its structure, whether rocky or sandy, all which the children could easily tell, when once their attention has been turned in that direction. The direction it assumes, whether it runs east and west, or north and south; if east and west, how do the slopes turn? We have here a gentleman's mansion—on which side is it built—on which side is his garden—why do you think on the south? why not on the north? Such simple questions would suggest matter of thought, which at a later period might be turned to good account. If it is winter and snow lying on the ground, the attention of the children might be turned to the fact that it lies longest on the top of the rising ground. The reason of this they may not, as yet, be able fully to comprehend, but the observation of the fact is important. Various other features may be noticed—the spurs which branch off from the leading range—the hollows or valleys between—the relation between their direction and that of the rising ground—the productions growing at its foot and on its sides, may all form the subjects of separate lessons, to be given as the children are able to bear them.

Elementary lessons on Rivers.

152. Next to our miniature mountains, come our rivers. A little stream runs hard by the school. The children have seen it, and, on more occasions than one, have amused themselves on its banks. It could form the typical picture of the great rivers that drain continents, and form the outlets for the productions of the earth and of man's industry. It is in motion, flowing onwards, flowing ever. Whence comes it—why does it run in that particular direction—why these bendings in its course—

why does it not flow straight onward? You observe a large pool at that spot. Notice the water—its stillness—its colour. Why is the pool there? Is there anything to produce it? It is a miniature lake, and the self-same cause that forms the running water into a pool, forms the large lakes. At another spot we have the little stream assuming the form of a torrent, dashing impetuously over the rocks, and sweeping the children's tiny boats headlong down its waters. Is there cause for this? Is the nature of the ground the same as it is where pools occur? Notice also the bed of the river, what is it composed of? Where did all these small stones come from? Is the bed of uniform depth? Why is it deeper in some places than in others? What do you observe regarding the grass which grows on its banks? Are there any vegetable forms peculiar to the banks—forms which grow there, and nowhere else? Such questions as these pave the way for the geography of river-systems. We follow the stream towards its source. Does it become larger or smaller? Are we ascending or descending? Here is a tributary joining the main stream. Note its direction. Why is there a bridge here? We pursue our path until we find it rising far up among the bleak moorlands. Commencing again at the school, we can trace its windings to the sea. Here it turns a mill-wheel, and thus—

> He makes sweet music with the enamelled stones,
> Giving a gentle kiss to every sedge
> He overtaketh in his pilgrimage;
> And so by many winding nooks he strays,
> With willing sport, to the wild ocean.

Geography, taught in this way, might be made most fascinating to children; and their young, ardent, enthusiastic minds might be trained to observe every phase of the scenery among which they live, and to discover beauties in the most familiar objects. We fancy we hear some matter-of-fact individual exclaim—"such teaching is not education." It is not cramming, it is not hot-house forcing, but withal it seems to us that such lessons constitute education of the highest kind, that education which trains children to use their eyes, and to discover for themselves the countless wonders with which creation teems—that education which trains them to love "the noise of the hidden brook, in the leafy month of June," and to trace, with the intense joy which only childhood knows, the forms of beauty which throng them on every side.

Elementary lessons on the Productions of a Country.

153. These observation lessons on the leading features of the district immediately surrounding the school, would form a fitting prelude for a minuter investigation into its special characteristics. The nature of the district, whether agricultural, pastoral, mining or manufacturing; the consequent occupation of the inhabitants; the products of their industry in the shape of farm produce or manufactured goods; the sending of these away in waggons on ordinary highways, or by rail or canals; the isolation or the crowding together of dwelling-houses determined by the pursuits of the people, might all be made the subjects of lessons, and would give to the children limited, but in so far as they went, correct ideas of the elements of commercial geography. There would also be lessons on the trees and flowers peculiar to the locality, on the beasts and birds and insects which abound in it, on their habits, structures, and modes of life; all of which would connect geography with botany and natural history, and would thus render it truly a description of the earth. These lessons should not deal with technical scientific terms—the plants and animals need not be reduced to orders and classes. Botany or natural history, in the proper acceptation of these terms, can never be subjects of study in the elementary school. The mind of childhood or of boyhood has not attained that development which is absolutely necessary to the systematic study of these branches. But young children can be easily taught to know one tree from another, to recognise a poisonous plant, to observe where certain classes of birds build their nests and find their food; and these observations lie at the foundation of the real study of the natural sciences. To prevent all mistake as to the length to which we believe these studies ought to be carried, we quote the following admirable remarks from Horace Mann:—

"I know full well that the extent and variety of subjects said to be taught to young children in the Prussian schools, have been often sneered at. 'What,' say the objectors, 'teach children Botany, and the unintelligible and almost unspeakable names, Monandria, Diandria, Triandria, &c.;—or Zoology, with such technical terms as Mollusca, Crustacea, Vertebrata, Mammalia, &c.,—the thing is impossible!' The Prussian children are not thus taught. For years their lessons are free from all the technicalities of science. The knowledge they already possess about common things is made the nucleus around which to collect more; and the language with which they are already familiar becomes the medium through which to communicate new ideas, and by which, whenever necessary, to explain new terms. There is no difficulty in explaining to a child, seven years of age, the distinctive marks by which nature intimates to us, at first sight, whether a plant is healthful or poisonous; or those by which, on inspecting the skeleton of an animal that lived thousands of years ago, we know whether it lived upon grass or grain or flesh. It is in this way that the pupil's mind is carried forward by an actual knowledge of things, until the time arrives for giving him classifications and nomenclatures. When a child knows a great many particular or individual things, he begins to perceive resemblances between some of them; and they then naturally assort themselves, as it were, in his mind, arrange themselves into different groups. Then, by the aid of a teacher, he perfects a scientific classification among them,—bringing into each group all that belong to it. But soon the number of individuals in each group becomes so numerous, that he wants a cord to tie them together, or a vessel in which to hold them. Then, from the nomenclature of science, he receives a name which binds all the individuals of that group into one, ever afterwards. It is now that he perceives the truth and the beauty of classification and nomenclature. An infant that has more red and white beads than it can hold in its hands, and to prevent them from rolling about the floor and being lost collects them together, putting the white in one cup and the red in another, and sits and smiles at its work, has gone through with precisely the same description of mental process that Cuvier and Linnæus did, when they summoned the vast varieties of the animal and vegetable kingdoms into their spiritual presence, and commanded the countless hosts to arrange themselves into their respective genera, orders, and species. *Our* notions respecting the expediency or propriety of introducing the higher branches, as they are called, into our common schools, are formed from a knowledge of our own school teachers, and of the habits that prevail in most of the schools themselves. With us, it too often happens that if a higher branch,—geometry, natural philosophy, zoology, botany,—is to be taught, both teacher and class must have text-books. At the beginning of these text-books, all the technical names and definitions belonging to the subject are set down. These, before the pupil has any practical idea of their meaning, must be committed to memory. The book is then studied chapter by chapter. At the bottom of each page, or at the ends of the sections, are questions printed at full length. At the recitations, the teacher holds on by these leading-strings. He introduces no collateral knowledge. He exhibits no relation between what is contained in the book and other kindred subjects, or the actual business of men and the affairs of life. At length the day of examination comes. The pupils rehearse from memory with a suspicious fluency; or, being asked for some useful application of their knowledge, some practical connection between that knowledge and the concerns of life, they are silent, or give some ridiculous answer, which at once disparages science and gratifies the ill-humour of some ignorant satirist. Of course, the teaching of the higher branches falls into disrepute in the minds of all sensible men, —as, under such circumstances, it ought to do. But the Prussian teacher has no book. He needs none. He teaches from a full mind. He cumbers and darkens the subject with no technical phraseology. He observes what proficiency the child has made, and then adapts his instructions, both in quality and amount, to the necessity of the case. He answers all questions. He solves all doubts. It is one of his objects, at every recitation, so to present ideas, that they shall start doubts and provoke questions. He connects the subject of each lesson with all kindred and collateral ones; and shows its relation to the every-day duties and business of life; and should the most ignorant man, or the most destitute vagrant in society, ask him 'of what use such knowledge can be?' he will prove to him, in a word, that some of his own pleasures or means of subsistence are dependent upon it, or have been created or improved by it. In the mean time the children are delighted. Their perceptive powers are exercised. Their reflecting faculties are developed. Their moral sentiments are cultivated. All the attributes of the mind within, find answering qualities in the world without. Instead of any longer regarding the earth as a huge mass of dead matter,—without variety and without life,—its beautiful and boundless diversities of substance, its latent vitality and energies, gradually dawn forth, until, at length, they illuminate the whole soul, challenging its admiration for their utility, and its homage for the bounty of their Creator."

Elementary Lessons on Climate, &c. 154. Lessons on climate, on the changing seasons, on day and night, and on the heavens, should, at this early period, be conducted in the same spirit. Spring with its lengthening day and its opening buds, summer with its flowers and blossoms, autumn with its fields of yellow grain and its trees loaded with ripened fruits, and winter with its ice and snow and biting winds, the sun coursing through the heavens, the moon and the stars in their nightly motions, might all be brought under the notice of the children, and lessons of deep significance drawn from the constant deaths and constant resurrections which nature ever exhibits. Such a series of lessons, whilst it would arouse the attention and engage the affections of the young, would do yet more; they would serve to create a picture in the child's mind, by means of which he could, to some extent at least, conceive what was the appearance of other districts of country with which he was not familiar from personal observation. The rising ground could be gradually expanded until the child had no difficulty in conceiving of it as a lofty mountain range, stretching through the length of a continent, the small stream, which drove the mill-wheel, would easily become a mighty river, like the Nile or the Ganges, the pools and lochs would assume the dimensions of Lake Superior, and the elevated farm and bosky dell would be the type of the extensive plateau or the wide valley. So also "the vegetation and the forms of animal life of a foreign region, and the manners and customs of the people who inhabit it, will readily become known to him, when he is told of them according to forms of expression which have first been made familiar to him *by their application to his own.*" We are satisfied that pupils who, by means of such simple lessons as we have imperfectly sketched, have had their minds imbued with geographical ideas, instead of having them crammed with facts, will learn to love the study of this branch, and will prosecute it with an ardour which will amply repay the master for any trouble he may have expended on the preparation of these elementary lessons.

Incidental Geographical Lessons.

155. Intermingled with the initiatory lessons, there might be ones, not strictly on geographical subjects, but in the course of which much geographical information might be communicated, which would form an admirable preparative for the formal study of this branch. Object lessons on plants of different climates—the palm—the cotton plant—rice—tea;—on the animals peculiar to certain regions—the lion—the elephant—the camel—the rein-deer—would necessarily involve the frequent mention of the countries in which the objects exist, and thus when the children came, in their regular geographical lessons, to the countries thus brought under their notice, they would recognize in them places with which they had a certain degree of acquaintance, and these links of interest would have the effect of giving a zest to the study which it would not otherwise possess. The effect of these lessons would be increased, if they were accompanied with good pictures of the objects, such, for example, as those published in connection with "Patterson's Zoology." These pictures would give not only a definite conception of the animals or plants, but also of the kind of scenery which prevails in the districts where the animals or plants are found. It might be desirable also to have a map suspended before the children, to which occasional reference might be made; and thus the countries referred to would possess in their minds a kind of local habitation. No formal instruction as to the relative positions of the countries need be given—all that is necessary is to associate in their minds the subject of the lesson with a definite tract of country.

Elementary Ideas, of a Map.

156. The elementary lessons which we have briefly described, pave the way for the systematic study of geography. At this stage, accordingly, it becomes an important question to determine what appliances the teacher should employ, and how he should use them. First in importance come maps, without which geography can never be well taught. It is of consequence,

however, that children be early trained to know what a map really is, and to interpret and give a meaning to the symbols employed to represent geographic ideas. It happens too generally that maps are introduced to the notice of children, without one word of explanation being given as to their design or construction. In order to give pupils correct ideas of a map, a plan of the school should be drawn on a flat surface placed *below* their eyes. The floor of the school-room would be a very suitable place. Having determined a line representing one of the ends of the building, and having made it of a given length, the master should train out from the pupils how the lines representing the other sides must be drawn ; and they will, at the same time, see that these lines must be of a fixed length in reference to the first. The position of the master's desk should then be determined, and thereafter the various articles of school furniture will fall into their appropriate places. The pupils will thus have before them a bird's eye view of the school, and the various lines employed in the plan will each be significant. When this has been done, a real map should be spread out on the floor, and the pupils will thus come to recognize that it is intended to represent a portion of the earth's surface, as it would appear to a spectator looking upon it *from above.* The various symbols used will now acquire a meaning, and the children will see in the marks employed to represent mountains, not a few irregular scratches, but ranges of hills stretching through the length and breadth of the country, and in those employed for rivers, not merely waving lines, but streams running down the mountain's side, and flowing onwards to the sea. After a time, the plan may be projected on the black-board, and compared with a map suspended *before* the children. As no country will present the same regularity of outline which the school-room does, an irregular figure, such as some neighbouring field, or some given portion of the village or town, should be drawn, first on the floor, and then upon the black-board. The pupils should be set, at an early period, to make on their slates such plans as we have described, and the plans should be drawn on different scales. Their work may, at first, be rude and unfinished, but it will be invaluable in giving them accurate conceptions of a map.

Blank Maps.

157. Having thus familiarized the children with the nature of a map, the teacher has next to determine what kind of maps he will employ. Those in general use in this country in some respects attempt to accomplish too much, and in other respects too little. They are by far too full of topographical information, but do little in assisting the pupils to form a correct estimate of the physical aspects of the particular countries which they represent. While each town and hamlet, with its name, and in some cases its population, is crowded into a map of small size, the grand leading features of the country are, to a large extent, overlooked. This is an error which we hope soon to see remedied. Indeed, it is already so far remedied by the use of blank maps, which are not, however, employed to the same extent as they ought to be. Such maps are especially valuable in presenting a fair general outline of the form and configuration of a country. The mountain and river systems can be represented more clearly and definitely when no part of the map is occupied with letterpress. At the same time, the use of these maps will tend to produce more order and method in the style of teaching, than where each place has its name attached to it. The master will require to have the whole country clearly in his mind's eye; "he will be led into a more scientific mode of studying the lessons,—associating the names of localities with the memorable facts and circumstances connected with them, and observing the bearings of the towns, &c. with reference to one another, and more particularly their position with regard to the rivers and line of coast." By increasing or diminishing the depth of colouring, the elevation of different parts of a country may be clearly shown. In some of the German maps, not only is the length and direction of mountain chains indicated to the eye, but also their breadth and comparative heights. In this respect very much yet remains to be done, and we are still in the infancy of chartography. We would advise the teacher to have, in addition to maps of the ordinary descriptions, a few blank ones in his school, and he will find them of essential service in the teaching of geography.

Outline Maps

158. In addition to blank maps, every school should be supplied with the outline maps of, at least, the more important countries. These outline maps

should be constructed on some substance which would permit the insertion and rubbing out again of the various lines used in chartography. A few outlines on a small scale have been published by the Messrs Johnston; their size, however, renders them of little service in school, except to be used by the pupils when engaged in map drawing. The teacher who is in earnest in his work, will have such outlines drawn on the black-board; and they should embrace simply the coast-line, with the lines of latitude and longitude. The advantage of using such outlines is that the teacher is enabled to bring out prominently any feature of the country which he wishes. Of course, this must be done in the course of the lesson, which pre-supposes on the part of the master the power of drawing. As we believe that there is no mode of teaching geography more valuable and interesting than that wherein the master creates, as it were, the features which he is describing, it is extremely desirable that all, who set themselves to instruct children in this branch, were capable of drawing. To point out a range of mountains on a map, to trace a river, and observe the towns on its banks, is not nearly so interesting to children as to cause the mountain to start from the black-board, to show the river at its source, a mere brook, but gradually widening as it rolls on, and to insert, as we reach them, the various towns which lie in its basin. This is the method almost universally followed in the Prussian schools; and Horace Mann describes, in glowing terms, the life and enthusiasm with which the children recognized and named each place as it sprung into existence by the magic pencil of the teacher. We need not say that such a mode of teaching differs very widely from that so often seen in our own country, where the teacher stands with his face to the map, and his back to the pupils, and pointing mechanically to a round spot, asks them what town it is.

Raised Maps and Pictures.

159. Raised maps are better fitted than any others to give correct ideas of the physical aspects of a country; but their price, and the small scale on which they are produced, exclude them from most elementary schools. This is much to be regretted, inasmuch as a raised map, if executed with any considerable degree of accuracy. will do more to render children familiar with the ap-

pearance of a country, than whole pages of description. Word-painting is very valuable in its own place, but, however minute and graphic it may be, it will not leave so abiding, nor so real an impression, as painting which appeals to the eye. Hence, it is extremely desirable that raised maps, on a large scale, and at a moderate price, were within the reach of all schools. The mere inspection of such maps would convey more useful and accurate information than many lessons on the ordinary map. Placing such a model before his pupils, the teacher could lead them along the mountain ranges, down the river valleys, across the plains, and by the shores of old ocean, until the mind had obtained a good general idea of the exact form and appearance of any particular country. It has been suggested,* that "The material used in the representation might consist of separate pieces, which could be conveniently taken down and removed, and be displaced by another representation." The same writer also suggests that pictorial representations might be used with much advantage in connection with these raised models. "The representation by pictures—of which there should be many in connection with each country, might, in the case of young persons, be rendered more impressive and interesting by being seen in frames through a magnifying glass. This kind of representation, if given in sufficient variety, might not only render vivid the grander features of a country, but give a general idea of its surface, rivers, cities, and vegetable forms, as well as the costume, features, and employment of its inhabitants. The interest which the panoramic exhibition of foreign scenes excites in the public mind, proves the general desire of acquiring information, when it can be gratified without much sacrifice of time and thought. The knowledge which the eye can acquire is rapidly learned, is peculiarly adapted to youth, which is too restless to piece a picture together from mere description. Children, besides, had they patience, could not, from their imperfect knowledge of words, realize a scene from description. Panoramic exhibition, then—that which gives objects and scenes on a scale of life-like association—might in schools be made admirable correctives of the erroneous and defective representations which the youthful mind conjures up from the tracings of a map." Sections of countries are also useful in this respect, and these every teacher can form for himself.

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* "Scottish Educational Journal," vol. i. p. 340.

Globes.

160. A pair of globes is essentially necessary to every school. Many of the most common geographic terms—meridians of longitude, parallels of latitude, equator, tropics, &c.—cannot be clearly understood without constant reference to a globe. Drawings on the blackboard will not supply the place of a globe, for it is very difficult for children to imagine that what is to the eye a mere circle is in reality a hollow sphere, and that a straight line is a circle. The two hemispheres, projected on plane surfaces, convey to children very inadequate notions of the shape of the earth, and very erroneous ideas of the relative positions of different places. The pupils should be introduced to these hemispheres from the globes, not to the globes from the hemispheres. The two flat representations would thus become significant and might be referred to with advantage. In all questions relating to the shape of the earth, the position of the land and water, the forms of the continents and of the oceans, &c., the teacher should use the globe. There have been introduced of late raised models of the whole earth. The same objections as to dearness and size may be urged against these, as are urged against models of particular countries. But the idea is good, and the more of these models we get introduced into school, the more useful and interesting will geography become.

Climatic Maps, &c.

161. Maps illustrative of climate, of the botany, zoology, and geology of the principal divisions of the globe, would be of much service to the teacher when he comes to treat of these subjects. Several very good maps of this description exist, and when once the pupils have learned to interpret the language employed in them they become exceedingly interesting, and more valuable than almost any series of text-books. Views of nature in different latitudes and at different altitudes, diagrams illustrating the effect of vertical or lateral distance from the equator on climate, and on the productions of the earth, comparative pictures of the heights of mountains and of the length of rivers, and of the areas of different countries, &c., would all serve to give pupils

accurate conceptions of things regarding which their ideas are too generally very loose and indeterminate.

Great deficiency of Apparatus in most Schools.

162. Few of our elementary schools possess all, or indeed the majority of the appliances to which we have referred. To many school committees it would appear like the dream of an enthusiast to suggest that they should provide their teachers with the apparatus we have named. If they provide a weatherproof building, and a few desks and forms, they consider that they have acted liberally on behalf of education. They will cheerfully tax themselves to build jails, and to pay policemen, but they grudge every farthing which is expended on education. Strange that in this nineteenth century men should not have learned the meaning of the weighty proverb—*obsta principiis.* We talk of education, we have eloquent speeches on it delivered to admiring and entranced audiences, we have noble lords and high-born ladies declaring that no subject lies so near their heart as that of raising the working-classes in the social scale, by means of an improved and extended system of education; and all the time the poor teacher is allowed to spend his strength and his energy in a badly constructed, badly lighted, badly ventilated school-room; and the pupils are starved, physically and intellectually, when the expenditure of a few pounds might supply them with a sumptuous feast. Need we wonder that education is not advancing so rapidly as it should? How can the teacher work unless he has materials with which to work? We are training good, enthusiastic, earnest, God-fearing teachers, and sending them broad-cast over the land, but their hands are tied by the miserable and pernicious economy which refuses to supply them with those appliances which are absolutely essential to the right discharge of their duties. Our education is still in its swaddling clothes, and much must yet be done before we can even approximate to the state of fully developed manhood. Let not the young teacher, however, despair. Let him take courage, and work away with the appliances he has, and thus give evidence that he is not unworthy of his high vocation. Old prejudices are beginning to vanish, the mists of ignorance are clearing away, the first faint streaks of a better and a brighter day are already visible on the horizon, and the time,

we would fain hope, is not far distant when the nation will arouse itself from its long lethargy, and put forth at least as vigorous efforts in the prevention, as it has hitherto done in the punishment of crime.

The Teacher should proceed from the Known to the Unknown.

163. Before proceeding to make a few remarks on the systematic study of geography, it may not be out of place to make one or two observations on some general principles which the teacher must constantly bear in mind. We have alluded already to the first and fundamental principle which must regulate all his instruction in this branch. He must, in all cases proceed from the known to the unknown. In conveying to the minds of children an idea of the height and breadth of a mountain range, the teacher must not rest satisfied with the mere announcement that its height is so many feet, and its breadth so many miles. Objects familiar to the children must be employed to assist their conceptions. The distance between two known places is, suppose, six miles—the breadth of the mountain chain is eighteen miles; hence its breadth is three times as great as the distance between these two known places. So in regard to its height. That hill seen from the door of the school-room is 1000 feet high; three such hills would require to be piled on each other to form some of the Grampian peaks—five of the latter placed on the top of each other scarcely equal the height of Mount Blanc, while in Asia and America there are peaks nearly twice as high as Mount Blanc. The small stream which runs past the school, with the source of which the children are familiar, is ten or twenty miles long—this length becomes the measure of the length of the longest river in the country—this last of the longest in the continent, and this again of the longest in the world. In a similar way, when once the child has become tolerably familiar with the size of his own country, its area will constitute the unit whereby he can measure all other countries. Great Britain has an area of so many square miles—France has an area so many times greater—the knowledge we have acquired of our own country thus becomes the medium whereby we acquire much useful and accurate information regarding other countries. In regard to the pursuits, the houses, the dress of the inhabitants of different countries, the same principle can be

evidently employed. We need not multiply examples. The principle is self-evident, and no man who has regard to the advancement of his pupils in real, in opposition to mere verbal knowledge, will venture to overlook it. We may simply remark that, whilst the known is thus made the stepping-stone to the unknown, the true representation of the unknown in geography will be much assisted by the use of such drawings, pictures, and diagrams, as we have already described.

Classification.

164. The principle of classification must be largely employed, with the view of assisting the memory to retain the varied and numerous facts which the science of geography embraces. When we look abroad upon the world, we find endless diversity prevailing among all the kingdoms of nature; and he who sets himself to study any one of these kingdoms, soon finds himself compelled to arrange and classify the objects which come in his way. "On the same moor, on the surface of the same meadow, the naturalist collects grasses of many forms—he finds both enamelled with flowers of every hue; and in those primeval forests which have been planted by the hand of God, and beneath whose silent and solemn shades man still walks in savage freedom, trees of every form and foliage stand side by side like brothers." Were one to proceed to study nature as he finds her, without any attempt at arrangement, his progress would be slow and very unsatisfactory; for, by the time he had examined and studied one particular object, those which he had previously learned would have escaped his memory. Accordingly he arranges into leading divisions the manifold forms which present themselves to his notice, and he is thus enabled to grasp them more firmly, and to retain them more easily. So it is in regard to geography. All the facts of this science should be arranged under their proper heads, and, when this has been done, there will be comparatively little difficulty in remembering them. Thus in studying the detailed geography of any particular country, instead of commencing at some one spot and considering the hills, rivers, lakes, towns, capes, &c., in the mere local order in which they occur, the facts belonging to each of these branches of the subject should be grouped together, and in this order presented to the mind. In like manner, the commerce of a country should be arranged into its leading branches,

and the localities where each branch is carried on should then be considered together. This same principle of classification should be extended so as to embrace not merely the various facts relating to each country, but those which relate to all countries. In this way comprehensive and general views will be communicated, and geography will not be confined, as is too often the case, to the bare enumeration of isolated facts, which, considered in themselves and apart from their relations to one another, are well nigh useless.

Association Contiguity in Place.

165. A third principle of great importance is that of association, which should be turned to large account in teaching geography. "The principle of association is founded upon a remarkable tendency, by which two or more facts or conceptions, which have been contemplated together, or in immediate succession, become so connected in the mind, that one of them at a future time recalls the others, or introduces a train of thoughts, which, without any mental effort, follow each other in the order in which they were originally associated." * The principles of association have been reduced to four leading divisions, all of which should be employed in the work of instruction. One of these is contiguity in place; that is, an event happened at a certain given place, and we cannot hear the place mentioned without at the same time recalling the event. It is this principle which gives such an interest to spots rendered famous by deeds of noble daring, or by events which possess a great interest for mankind. In our own country, the great fields where civil or religious liberty has been won are dear to the heart of every Briton, not from any sacredness in the spot itself, but from the fact that we associate with it the event which has produced such important consequences. Coming down to recent times, the bare mention of Cawnpore recalls to the mind scenes which we would willingly let die—whilst that of Lucknow brings vividly before us the calm, patient, resolute bearing of a handful of English in the presence of thousands of bloodthirsty enemies. The teacher should employ this principle in his lessons on geography, linking events with the places where they occurred—connecting with each place that which broadly distinguishes it from other places, thus giving an interest to

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* Abercromby's "Intellectual Powers," p. 78.

what is too often a mere dry catalogue of names. Thus, for example, in treating of the geography of Palestine, which, more than any other land, admits of this kind of association, the town of Nain would call up the picture of a sad funeral procession issuing from its gates, with a widowed mother weeping for her only son, of the stoppage of the procession by One who seemed a Man of Sorrows, and of the turning of the mother's grief into joy. The sea of Galilee would call up visions of the apostles ; of our Saviour sleeping in the little boat on a tempestuous sea ; of crowds gathered on the slope of the hills which surround it, listening to the words of instruction which flowed from the mouth of Him who spake as never man spake. Bethlehem would be associated with the stories of Ruth, of David, and of the birth of Christ. There is scarcely one spot in all that land, but might thus be associated with events of deepest interest, and no sooner has the place been mentioned than it at once recalls the event. These illustrations will serve to show how this principle of association may be wielded so as to produce the most beneficial results.

Association. Resemblance.

166. Another principle of association is resemblance, whereby when two objects or events, which bear a resemblance to each other, have been contemplated together, the one cannot be recalled without, at the same time, recalling the other. By means of this principle we bind together those things which resemble each other, and when one of these has been brought before the mind, it recalls the rest. A very common illustration of this principle is familiar to every one. A person passes you in the streets, with whom you have no acquaintance, but who bears a strong resemblance to an intimate friend. The sight of the unknown person brings vividly before you the features of your friend whom he resembles. This is an event of every-day occurrence, and the principle, which this case illustrates, is one which the judicious teacher may employ with much advantage in teaching geography. The various countries in any given continent should be compared together in regard to those points in which they agree—the resemblances existing among them should be pointed out, and thus the mind will acquire a more connected, and therefore a more definite view of them as a whole, than when each is considered alone. Thus, in look-

ing at the old world and the new, we observe that each has the land divided into two great masses—in the one we have Europe and Asia with Africa, and in the other we have North and South America; we see also that the mountain chains in both run in the direction of the greatest length of the land; that, in both, these chains are placed out of the centre, and therefore nearer one side than the other; that as a result of this, both worlds possess two great slopes, the one considerably longer than the other; and that, as a still further result, both possess two great river systems following the track of these slopes, but that the one of the river systems in both worlds is on a much larger scale than the other. These resemblances, as existing in the case of continents, can be traced out in each country, and thus any one country becomes, to a certain extent, the type of others. In treating of the zoology or vegetable productions of any country, the same principle can be brought into play. Thus, the animals found in England may be compared with those found in Russia, and when they have been thus compared, and, as we shall show immediately, also contrasted, the pupil will have a tolerably correct conception of them.

Association. Contrast.

167. Closely connected with the principle of resemblance is that of contrast. The latter is even more powerful than the former. Events or places between which there exists a strong contrast are more easily remembered than those between which a striking resemblance obtains. A particularly bright colour naturally suggests a very sombre one; a very ugly face brings before us one that is remarkable for its beauty. So also lofty mountains suggest deep valleys—the restless ocean the fixed land—the sea lashed into a storm the same sea sleeping calmly, with the heavings of its mighty breast all laid—a mountainous country a level one, and so on. These associations are also of much service, and may be rendered very useful in connection with geography. The subjects of contrast, in all the departments of this science, are so numerous and so familiar that we need scarcely give any examples. The following specimens will suffice:—The contrast between the old world and the new in regard to direction of the great mass of the land—in regard to plains and table-lands—and in regard to animals and vege-

table productions. Any two countries might thus be contrasted, and the one made to throw light on the other.

Association. Cause and Effect.

168. More important, however, than any of the principles which we have enumerated, is that which associates things together inasmuch as they are related as cause and effect. That every effect must have a cause is a truth which early forces itself on the minds of children, and they learn to think of events in connection with the causes that produce them, or of causes as connected with the effects which flow from them. Associations of this nature are exceedingly useful, and the power of forming them correctly is one of the chief characteristics of a well-disciplined mind. Geography, as much as any branch of elementary instruction, admits of the formation of such associations. Indeed, it is not too much to say that this branch is well or badly taught, in direct proportion as the pupils are trained to predicate, from their knowledge of certain given features, what must be the nature and general condition of a tract of country. To be able to describe from memory the countries through which a river runs, or to repeat very glibly the names of all the towns in a particular county, is an attainment which requires the exercise of one of the least important faculties—that of verbal memory. But when once the general outline of a country has been given, to be able thence to infer the course of its rivers, the position of the towns, the occupation of the inhabitants, and such-like things, constitutes a training of the highest importance, and the man who can do this has received an education which will stand him in good stead in all the affairs of life. It is in this way that the teaching of geography acquires its chief value, and that the study of this branch accomplishes the end of its introduction into the course of elementary instruction. The bare knowledge of individual facts, as already remarked, is well nigh worthless, but the ability to compare, classify and deduce inferences from these facts, is of inestimable value. The teacher should constantly bear this in mind, and should aim, not so much at the communication of mere verbal information, as at imparting to his pupils the key, whereby they may be enabled to become the interpreters of nature for themselves.

Order of Study.

169. The foregoing remarks at once lead us to the true order in which the geography of a country should be studied. Having determined its position, and marked off its boundaries, we ought to commence with those features which have been impressed upon it by the hand of nature. As it is always safer, when we can accomplish it, to commence with causes and follow these out into their effects, than to adopt the reverse method, we ought to deal first with the physical aspects of each particular country, as these, to a large extent, determine its political geography. The leading outlines are all that need be given at the outset—these outlines can be gradually filled in as the lessons proceed. By means of the black-board and the map, the principal mountain ranges can be laid off ; the rivers flowing from them can be traced through all their windings, until they finally lose themselves in the sea ; the basins of these rivers can be examined ; the nature of the soil, the prevalence of minerals, &c., commented on ; and these facts will fix, somewhat generally, the position of the towns, and the pursuits of the people. Thus if the course of the river be through a rich agricultural district, but one in which few minerals are found, as is the case with the Tweed, the towns will not be thickly peopled, and the inhabitants will depend largely for support upon agricultural pursuits. But if, on the other hand, the district be rich in minerals, as the valley of the Clyde, the population will be dense, and the inhabitants engaged in mining or in commercial pursuits. By fixing the height of the mountain ranges, and by determining on what side of a country they lie, and in what direction they run, we can train the pupils to infer, with very considerable accuracy, the course which the rivers will follow, their length and their economic uses. Nor is this all, we can, from a knowledge of the physical features of a country, very frequently determine the localities where memorable events have occurred, or where commercial cities have sprang up. " In a rude state of society, we would expect towns to spring up where we find Edinburgh, Stirling, and Dumbarton ; because they are all places of great natural strength in the neighbourhood of rich land. We would expect from the position of Stirling, as it is the key to the passage from the north to the south, that many a hard contest must have occurred in its vicinity. In trading and commercial times, again, Leith,

Greenock, and Dundee, would naturally grow into importance. In the present day, in which the minerals of coal, limestone, and iron, have acquired such a value, we find the population collecting where these are most plentiful. Thus there is a mode of connecting ideas, even in geography, which will assist the memory, exercise the reasoning faculty, and, besides, cultivate a habit and disposition favourable to judicious enterprise." *

Example I. Elementary Definitions.

170. Having endeavoured to point out the method which ought to be adopted in teaching geography, we shall now proceed to give one or two examples of the principles we have laid down. At the outset of the systematic study of this branch, it is necessary to give the pupils some ideas regarding the shape and the leading divisions of the earth. For this purpose, the globe and the two hemispheres should be called into requisition. By means of these, the pupils can be led to observe that the earth is round, that it forms a sphere, and that it is not wholly composed of one and the same material. Part of it is land and part of it water. Equal portions of the earth's surface are not covered with these two. There is more water than land. The proportion occupied by each may be stated, and illustrated by diagrams on the black-board. When these facts have been noticed, the attention of the children may be called to the relative positions of the land and water. Throughout all these exercises, the facts should not be stated to the pupils—they should be taught to observe them for themselves. Directing their attention to the globe, or the hemispheres, the teacher should ask whether the land is all connected? how many large portions there are? where do these lie? &c. The exact relative position of these divisions can, at this stage of the child's knowledge, be only approximately determined. The one lies north, or south, of the other, as the case may be; or the one great division runs east and west, and the other north and south. While these things are being pointed out, various technical terms can be explained, and employed in the subsequent lessons. Thus, turning the attention of the children to North and South America, they may be asked if they are of one uni-

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* "Prize Essay on Education," by Rev. D. Smith, Glasgow, p. 35

form breadth, like the school-room or the play-ground. Why are they not so? Where is the breadth least? The spot would be pointed out, although the name was unknown. Well, children, when two tracts of land are connected together by a narrow piece as in the case in America, we call the narrow piece an *isthmus.* Here is the school-room, and there is the play-ground, what *isthmus* connects them?—*The door.* Quite so; now can you point out any other isthmus on the map. Exactly, these are all narrow portions of land connecting two —*larger portions*, and we call such a portion—*an isthmus.* Now, do you see any narrow portion of water connecting two large portions? Very well—I must now tell you that we call these portions of water—*straits.* Will any boy tell me now what is the difference between a strait and an isthmus? The term gulf, promontory, cape, &c., may be all communicated in the same way, care being taken to give the children first an acquaintance with the thing, and thereafter with the term.

Example II. Definitions continued.

171. As it is of importance to establish in the minds of children at an early period correct ideas of the relative positions of places on the earth's surface, a knowledge of the various lines and circles employed for this purpose must be taught. Here again the globe, the hemispheres, and the black-board must be constantly referred to. The most important lines are the equator, the parallels of latitude, and the meridians of longitude. The terms axis, pole, &c., may or may not be given at this stage. The earth, as was seen in the previous lessons, is round, and, if I were to draw a line round it midway between the two opposite poles, the line would divide it into two equal portions. The whole earth is called a sphere—the half of it would be called—*half-a-sphere*, or, which means the same thing, a hemisphere. Now, children, here is an apple. Observe how I draw this line round the—*middle of it.* The line divides it into—*two equal portions*, or *hemispheres.* Now, this dividing line is called the equator. The derivation of the word would assist the children in acquiring its exact technical meaning. Here then we have one means of fixing locality. I might say that such a place is in one hemisphere, and such another place is in the other hemisphere. But would that tell you its exact locality? Now, if I draw lines at equal distances from the middle line, or the—*equa-*

tor, what form will they be of ? Here is a line on the blackboard ; observe, I draw other lines at equal distances from it; now, if we suppose these lines to be 1 mile apart, the first we might call 1, the second 2, the third 3, and so on. Suppose now I told you that a place was 3 miles from the middle line, on which line would you look for it ? Could you tell the exact spot on which it lay ? No, you could only tell that it lay —*somewhere on that line.* The meaning and use of these lines might thus be trained out, and so the term latitude would come to be understood. Various maps should then be presented to the children, and questions put on the latitude circles. Here is a map of England; you observe this line at the bottom of it—What figure is marked on it ? What does it mean ? From what line are the figures counted ? What figures are marked on the line at the top of the map ? What do they mean ? Now, look at these two maps—the one of Scotland the other of England. Are the figures along the sides of both the same? Why not ? In which of them are there the higher figures ? What do you learn from that ? The number of lines employed in globes and hemispheres might then be stated, and the children exercised in pointing out the distance of places from the equator, when their latitude has been given. The term longitude should be dealt with in a similar way. By such exercises as these, pupils learn to attach a definite meaning to these terms, when they may have occasion to use them. The various other technical terms employed in geography should be introduced to the notice of the child, as they are required. It is a waste of time and of labour to cause the child to commit to memory whole pages of definitions, long before they are of service. In all cases, the child shouldbe led to feel the need of the term, and thereafter its correct application will be speedily learned.

Example III. Relative Topography.

172. The means of classifying places according to their position being thus acquired, the master should again go over the outlines of the world, and cause the pupils to assign to their proper places the various divisions previously learned. Thus, starting with the equator as the standard of reference, how does the old world lie in regard to it? the new? Where is the bulk of the waters ? Look at the Atlantic and Pacific Oceans ; how do

they lie in regard to each other? in regard to the Indian Ocean? in regard to the equator? Take Europe and Africa. How do they lie in regard to each other? in regard to the equator? How is all Europe situated in reference to the equator? Are any of the other continents similarly situated? &c. The pupils should be made to observe and give expression to these facts for themselves. They will thus come to be considered as so many discoveries, and will take a deeper hold on the mind than if they had been acquired from the telling of the master, or the pages of a text-book. Various other general features may, in like manner, be brought under the notice of the child; and, thereafter, the great outlines of the continents pointed out. By means of the maps, and illustrations on the black-board, the high lands of the old world may be marked off, running from Cape Finisterre in Spain to the north-eastern point of Asiatic Russia, maintaining nearly a uniform position in reference to the northern and southern sea-boards, and thus dividing the whole land into two slopes of unequal length. The same general construction may be noticed in America, with the characteristic difference, that the high lands lie more out of the centre there than in the old world. This fact affects, in a most marked manner, the river system, the climate, and the productions of America. When these high lands have thus been examined, attention can be called to the fact that, considering the world as a whole, they form a girdle round it, throwing the vast bulk of the fresh water into the Atlantic Ocean, or into seas connected with it. The coast lines of the different continents may also be compared—Europe, as if it were on the point of breaking up into a group of islands, North America nearly in the same predicament, Africa and South America, on the other hand, presenting an unbroken front to the sea, and sternly refusing his offered embrace, while Asia half welcomes and half declines it. These outline lessons, if conducted with life and freshness, will interest the children in the study of this branch, and will form a first-rate foundation for important deductions at a subsequent stage.

Example IV.
Detailed Geography of England.

173. In dealing with the detailed geography of any particular country, the teacher should follow the same plan as in dealing with the outlines of the continents. He ought to commence with the

physical, and from a consideration of it pass on to the civil and local. Suppose, for example, the lesson to be on England. Having fixed the position of the country, and determined its boundaries, the attention of the children should be called to its coast-line. Its direction, length, and windings should be noticed; thereafter the watershed of the country should be marked off; the rivers would follow in due order, and then the towns. Placing himself and his pupils in imagination on the top of Crossfell, and fixing its position on the black-board, the teacher would trace the outline of the chain of which it forms a part, now rising, now sinking, now increasing in breadth, and anon diminishing, until it is lost among the Cheviot hills. Following the course of the latter chain, he would sketch it, as it ran north-east, towards the German Ocean. In the course of his drawing, various important facts regarding the chain would be mentioned. The stand-point—Crossfell—is 2658 feet high, but this height is not maintained all through. As we advance to the north the height diminishes, until near the Roman wall, where it is only 450 feet, so low indeed that the railway between Carlisle and Newcastle crosses at this point. Returning to our stand-point, we follow on the map and black-board the chain in its southward progress, until, after paying a passing visit to the Peak with its various curiosities, we lose it in the low ground adjoining the Trent. Looking from Crossfell towards the north-east, we have the large county of Northumberland with its level shore, and its streams, of which the Tyne is the chief, running nearly due east into the German Ocean. The same remark holds nearly true of Durham, but when we look at Yorkshire we find the rivers turned out of their natural course, and following a south-easterly direction. How comes it that the rivers of Yorkshire do not, like the Tyne and the Tees, flow nearly in an easterly direction? The explanation of the fact is given, when, from our elevated point of view, we cast our eyes towards the wolds of Yorkshire, which, coming between the source of these rivers and the sea, turn them from their natural course, and give to this part of the country a basin shape, with the point of greatest depression lying somewhat nearer the wolds than the range on which we are standing. Having marked off the wolds, and observed that they re-appear in Lincolnshire, we are enabled to divine, with considerable precision, the course of the rivers. The rivers being thus determined, we can lay down the sea-port towns—their size and importance will depend upon causes which we have not yet touched upon. To determine the position and importance of the inland towns, we return again to the range of hills on which we have placed ourselves. We take one of the rivers rising in it, and trace its course, remarking, as we proceed, upon the kind of country through which we are passing. It is undulating, divided into comfortable farms, with many winding hedge-rows running between. The men and women are busy in the fields, herds of cattle are standing by the river's brink under the shadow of the trees, lazily gazing on us as we pass. The district is agricultural. We come to a town; it has all the appearance of having stood there for ages; its quaint old houses, with their gables projecting into the street, speak of having been built long ago. Here and there grass is growing on the streets, and there are few signs of life. It is the market town, and, except on market days, when the burly farmer comes to town to sell his grain or other farm produce, and brings with him his wife or his girls, the shopkeepers have little to do, but stand at their doors and discuss politics with their next neighbour. Or, it may be, we observe in our course down the stream that the soil does not seem very productive, but is rich in minerals. Accordingly, we may expect to see huge chimneys belching out volumes of smoke, miners black and sooty moving about, furnaces roaring and hissing, and large scattered villages, straggling in all directions, with the provision and beer shops driving a rattling trade. There is life—everywhere there are signs of progress. New buildings are rising on every side, the railway hurries past, and the track-boat dashes into foam the black and stagnant waters of the canal. We need not enlarge—the hints we have given will suffice to indicate the order and the spirit in which the lessons on geography ought to be conducted.

Physical Geography. Outlines.

174. We have left ourselves but little room to speak of those parts of geography which treat of climate and its effects, &c. The same principles ought to be followed here as in treating of topography. The instruction at first should be confined to the

outlines of each particular branch of the subject; and, when these outlines have been clearly understood, it will be easy to complete them, and to exhibit all the parts in their mutual relations. These lessons should be all given orally. In any text-book, the scientific arrangement of the subjects presupposes, on the part of the pupils, an amount of knowledge which they cannot, by possibility, possess. But by means of oral lessons, now on one topic, now on another, the master can give the pupils a fund of information which will be of vast service when he comes to link all these into a connected whole. In treating of climate, for example, instead of giving at once all the causes which modify it, the master might first refer to the effect produced on it by lateral distance from the equator; at another time the effect of altitude above the sea-level; thereafter the effect produced by the proximity of mountain ranges, or of the sea, might all be dwelt upon, and illustrated by examples selected from different countries. The effect of climate on the vegetation and animals should also be referred to in the same incidental way. Certain plants require a certain amount of heat and moisture. Where is that amount found? Thus rice requires a summer temperature of at least 73.4°. This at once fixes its limits to a certain extent. But besides heat, rice requires much moisture. Will rice, therefore be found in all places which have the required temperature, in Arabia or Persia, for example? Why not? These countries have the necessary amount of heat, but not of moisture. Both conditions are fulfilled in the south-east of Asia, and hence rice thrives there. The winds, the rains, &c., should all be dealt with in a similar way. The advantages of such a method of training are great. It accustoms the child to compare and to reason, and to deduce for himself inferences of the highest value. When one, whose mind has been exercised in this way, reads or hears of the position and climate of any country, he can at once infer what its productions will be, or when he knows the productions, he can reason back to the climate and position of the country. We shall give one or two skeleton specimens of, and a list of subjects suitable for, such lessons as we are here speaking of.

Skeleton Lessons.

175. THE TRADE WINDS.

Effects of heat on air.

Air in tropical regions ascends.

Air tends to equilibrium.

Hence cold currents flow in to tropical regions.

The air expands and becomes lighter with heat, and *vice versa.* Tropical countries are warmer than extra-tropical. There are 82 degrees of difference between the equatorial and polar temperature—hence the atmosphere in tropical countries will be lighter than in extra-tropical, and will ascend. Air, like all fluids, tends constantly to a state of equilibrium—hence to supply the place of the warm air, which, in tropical countries ascends, cold currents rush in along the surface of the earth from north and south.

A N. and S. wind at equator, if earth at rest.

The difference of temperature thus sets the air in motion, and, were the earth at rest, and were it a plane surface, there would be a constant north and south wind at the Equator. (Fix this firmly in the minds of the children.)

Earth revolves.

Effect of this revolution on the currents of cold air.

It turns them out of their direction.

But the earth is not at rest, it turns on its axis from west to east. Its rotatory motion is greatest at the equator, where it is about 1000 miles per hour, and least at the poles, where it is nothing. When, therefore, a current of air sets out, say from the north on its journey south, it is constantly coming to parts of the earth's surface where the rotatory motion is greater than further north, and it does not obtain the same rotatory motion as the earth. A person or object on the surface of the earth, being carried round with the earth from west to east, will thus move more rapidly than the current of wind. When travelling quickly in a railway carriage how do you feel the wind blowing? In your face. Why? Because you are moving more rapidly than the air, you strike against it, or it feels blowing against you. So it is here; persons or objects on the earth's surface move more rapidly than the current blowing from the north. They strike against it, or it feels blowing against them.

Hence in tropical regions the prevailing winds are a N.E. and S.E.

The earth moves from west to east—hence the current will blow from east to west. Its direction will thus be between the north and east, or a north-east wind, and south of the equator it will be a south-east wind.

This direction is attained before the currents reach the tropics, hence within the tropics there would blow constantly, were the earth a plain surface, a north-east and a south-east wind.

But the earth is not a plain surface, it is traversed by high mountain chains, lofty plateaus, &c. (Show this by a reference to the map.) These on land break the uniformity of these winds; and hence it is only out at sea that these winds are felt in their full force, and blowing in the directions indicated.

Effects of inequalities of surface on currents of air.

"The difference of temperature puts the air in motion; and the direction of the resulting wind at any place (leaving the inequalities of surface out of view) depends upon the difference between the rotatory motion of the wind and the rotatory motion of the earth."

Definition.

These winds are of great value to ships, and hence their name, *trade winds.*

Name.

FORMATION OF RAIN.

Leave a shallow vessel filled with water in the open air, exposed to the sun—what happens? The water diappears—what becomes of it? How is this caused? *The heat causes it to pass off in the form of vapour.*

Evaporation,

Caused by heat,

The same process as this goes on over the whole surface of the earth, wherever there is water—on the ocean, lakes, rivers, from the very earth itself. You have seen a mist rise from the ground after a summer shower. What caused it, &c.

Is universal,

This vapour combines with the atmosphere, but is invisible. The atmosphere, under all circumstances, contains a certain portion of watery vapour. Its capacity for vapour is in proportion to its heat—it contains most when hottest.

Produces vapour which mingles with the atmosphere, Until it is saturated.

But the atmosphere cannot contain an unlimited quantity ; there is a limit beyond which it refuses to contain more. Illustrate this by sugar put into tea. If too much is put in, it sinks to the bottom. Why? Because a certain quantity of tea, say a cupful, can only dissolve a certain quantity of sugar; so with the atmosphere and vapour. When the atmosphere is thus charged full with vapour, it is said to be *saturated.*

Increase of temperature dissipates the rain.

The atmosphere, at a given temperature, is saturated—it is on the point of raining. Suddenly the temperature is raised. What happens? The gathering clouds are dispersed, and no rain falls.

Diminution of temperature.

The atmosphere, at a given temperature, is saturated—the rain is on the point of falling. Suddenly the temperature is lowered—the atmosphere's capacity for vapour is lowered. What happens? The overplus of vapour is condensed, and its own gravity causes it to fall to the earth in the form of rain.

Causes rain.

Rain is thus produced by a diminution of the temperature of the atmosphere, at a time when the atmosphere has reached or is near the point of saturation.

Atmosphere increases in cold as you ascend;

The upper regions of the atmosphere are colder than the lower. Snow lies longer on the top than at the bottom of a mountain. As you ascend the atmosphere increases in coldness.

Which is another cause of rain.

The watery vapour being very light, ascends. In its ascent it comes in contact with regions or strata colder than itself. These cold strata condense it, and then, by its own gravity, it falls to the ground in the form of rain. This is especially the case in tropical countries.

Application of the principle.

Extend these principles, and you have the philosophy of the immense fall of rain in mountainous countries, such as Switzerland, and especially on the side facing the sea, as in Norway, &c.

FORMATION OF CLOUDS.

Heat separates the particles of bodies.

Characteristics of fluids—how differ from solids—the particles of water from those of wood—they move more easily among themselves. Apply heat to lead, what takes place?—it becomes liquid. Heat has thus the effect of separating the particles of any substance. So with liquids—it separates their particles. Put water in a kettle, and put fire under it, what does it soon begin to do?—it boils—and when boiling, what do you observe coming out from the spout? The heat separated the particles of the water, and caused them to pass off in steam or vapour—heat causes evaporation. Now, take a cold saucer and hold it before the steam which issues from the kettle—what do you observe?—The saucer becomes wet. Why? The steam coming in contact with the cold saucer is converted back into water. In a railway carriage, when it is warmer inside than out, what do you observe on the glass?—drops of water. Show how they came there. Heat converts water into steam—cold converts the steam into water.

Causes water to evaporate.

Illustrations.

Atmosphere always has vapour.

The atmosphere has always more or less watery vapour mingled with it. Show whence it is supplied. Ordinarily this vapour is not visible—it floats about in the air, although it is not seen.

" The quantity of water that can float in air as invisible vapour, depends on the heat of the air; but even the hottest air cannot hold more than a certain amount."—(*Vide lesson on rain.*)

Vapour rendered visible by cold.

Whenever warm saturated air becomes colder, the vapour becomes visible all at once. What happened to the steam that came against the saucer?—Why? So in the atmosphere—when the warm, saturated air strikes against a cold hill-top, the vapour is condensed, and becomes visible in the form of mist and clouds. " Mist and clouds are simple vapour, in the act of changing into

Hence clouds and mists.

visible water. The particles of collecting water stick to the particles of the cold air, just as the particles of collecting water stick to the cold glass when they come in contact with it, and then float with it, so long as there is not more water than the air can hold up. When there is more water, it falls to the ground as drops of rain."—*Mann's Lessons on General Knowledge.*

List of Subjects for Lessons.

176. *Water*—Salt and fresh—why former more buoyant than the latter—why some bodies sink and others swim—specific gravity of bodies—mineral waters—why purest water insipid—springs, their sources—permanent, intermittent, and thermal springs—ancient and modern modes of conducting water—its properties and uses.

Tides—How produced and regulated—phases of the moon—eclipses and causes—harvest moon.

Currents—In the ocean—polar, equatorial, contrary, and under-currents, with examples, and how proved to exist—how temperature of seas thus affected—how drift-wood, seeds, etc., thus carried unerringly to distant shores.

Atmosphere—Its height—its composition—oxygen, nitrogen, hydrogen, and carbonic acid gases—means appointed by Providence to preserve the air in a state capable of sustaining animal life—whether more wholesome to have growing plants in a sitting-room by day or by night—why the air of cities more impure than that of the country—the general properties of air, and its important uses both to the animal and vegetable creation—breathing and burning compared—construction of the air-pump.

Heat—Natural and artificial—latent heat made manifest by friction, percussion, compression, and produced chemically—spontaneous combustion, conduction, diffusion, radiation, reflection, and absorption of heat—colours which absorb and radiate best—its expansive effects on various bodies—on the air, rarifying it, and producing currents or winds.

Winds—Permanent, periodical, variable and local, how accounted for—whirlwinds and hurricanes—various velocities, temperature, and names of winds—why a gale in winter heavier than one in summer—uses of storms—application of the winds by man.

Effects of Heat on Water—Producing vapour—tendency of vapour to ascend—formation of clouds—condensation of vapour by cold—descent of rain—why in globules—formation of snow—why white—of hail, of fog, of dew, and of hoar-frost—explanation of the forms they assume—the rainbow, how produced.

Mineral Kingdom.—Mines in Great Britain, why superior to those of any other kingdom, though not supplying the precious metals—Iron—Tin—Copper—Lead—Mercury—Zinc—Silver—Gold—Platina—Sodium—Magnetic Ore, etc., with their properties, process of manufacture, and uses to mankind.

Rocks—Different formations, granite, limestone, flint, freestone, slate, alabaster, mica, asbestos, petrifactions of various kinds, and a few of the more common and remarkable crystals—clay and soil—fossil remains of animals and plants, etc., etc.

VEGETABLE KINGDOM.—General Physiology of Plants, aquatic and terrestrial—their divisions—organs, roots, stems, branches, and leaves, with their various functions—the sap, flower, and fruit—varieties in the manner of the growth of trees—changes of vegetation, with the varied condition of climate—air plants, parasites, mosses, fungi, ferns, lichens, sea-weed, etc., etc.

Vegetable Productions—How those of hot, cold, and temperate countries may all be found in the same latitude—their preservation and the various natural agencies contributing to their diffusion, as the currents of the ocean, winds, and migratory birds—man a voluntary agent in effecting the same object—adaptation of food plants to climate reflecting the design of the all-bountiful Creator as to the diffusion of the human family.

ANIMAL KINGDOM.—Animal life, its effects—divisions of the animal kingdom—the integuments of the animal body—pores and their uses—bones, cartilage, muscles, lungs, heart, and vessels of the human body—respiration—circulation of the blood—why warm in some animals, and cold in others—blue and red blood, how these colours alternate—the teeth—the eye, its construction and adaptation to the wants of various animals, as in the case of fish, birds, insects, animals of the chase, and those of nocturnal habits—organs of support and motion—animal mechanics—nervous system—human brain, its protection and position, and its size compared with that of other animals—organs of sense and voice—difference in the form of man and that of other animals—instinct of man and animals—clothing of man and other animals, that best suited for different climates—effects of climate upon animal clothing—uniform heat of the human blood in all latitudes, circumstances accounting for the same—change of food and clothing requisite for various seasons and situations—how man fitted to be an inhabitant of all climes—wherein man superior to the animal creation—reason—beauty and perfection of mind and body—preservation of health, influence of cold upon it, of exercise and rest, pure air, and the regulation of the temper and passions—man's mental and moral nature—his high responsibility.*

Physical Geography. Generalization.

177. These incidental lessons prepare the way for the process of generalization. The various subjects treated of should be examined in regard to their relations and connections. It would thus appear that all nature was one—that no one part was independent of the other—but that all were portions of one vast machine, held together by the hand of Omnipotence,

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* These lessons, which might be multiplied to almost any extent, are selected from the list of those given to the pupils attending the Practising Schools of the Glasgow Free Church Training College.

and each fulfilling its own destiny, in obedience to law. The earth with its lofty mountain ranges and its deep valleys, the ocean with its mighty bosom ever throbbing, the winds that now play and sport on the earth's surface, and anon sweep it with the resistless power of a hurricane, the clouds that float across the azure sky, the rivers that bear their refreshing waters through the length of a continent, are all parts of one stupendous whole, and, wanting one, the whole were incomplete. The following extract furnishes a very good specimen of the general views to which we refer:—

"It is through the mutual relations of air, earth, and water, that the Supreme Ruler gives or withholds the food of man. These three, each in its own place and proportion, are alike necessary to the growth of grain, and, consequently, to the sustenance of life. It is by the agency of these three working together for good that the Father of all supplies his creatures' wants. The earth is the basis of the whole operation. From its fertile bosom it brings forth fruit sufficient to sustain all the living creatures that move upon its surface. It is wisely constructed to serve the purposes of God and satisfy the wants of men. 'Who hath established the earth?' Its hills and valleys, echoing to each other, answer, God. Its cohesive mass and its waving outline, its soft surface and its solid frame, are well defined marks of its Maker's hands. Alike in its creation and its arrangement, its material and its form, the final cause of the earth has obviously been the growth of vegetation and the support of life. But the earth could not bear fruit at any portion of its surface without the concurrence of water; and how shall the supply of this necessary element be obtained? 'Who hath bound the waters in a garment?' Again the clouds and showers, the springs and streams, with one voice answer, God. So wide is the dry land, and so low lies the water in its ocean store-house, that we could not even conceive how the two could be made to meet, unless we had seen the cosmical hydraulics in actual operation from day to day, and from year to year. Here lies the earth, rising into mountains and stretching away in valleys, but absolutely incapable, by itself, of producing food for any living thing. There lies the sea, held by its own gravity helpless in its place, heaving and beating on the walls of its prison-house, but unable to arise and go to the help of a barren land. Even although the struggling waves should at last beat down the barriers, and roll over the earth, the flood would not fertilize any place, but desolate all. The brine would scorch the world like a baptism of fire. Unless a gentler, sweeter sprinkling can be contrived, the earth might as well have been, what the moon is thought to be, a waterless world. In this strait—when the land could not come to the water, and the water could not come to the land—a mediator was found perfectly qualified for the task. 'Who hath gathered the wind in his fists?' The air goes between the two, and brings them together for beneficent ends. The atmosphere softly leans on the bosom of the deep, and silently sucks itself full. The portion so charged then moves away with its precious burden, and pours it out partly on the plains, but chiefly on vertebral mountain ranges. Thus the continents are watered from their centres to the sea. The fertility of the earth depends absolutely on the mechanical aid of the air in the process of irrigation.

"When I stood beside Niagara, listening to its low but awful hum, and gazing on its gathered waters rushing impetuously toward the sea, I saw one of the larger veins through which the world's life-blood flows back into the world's mighty, ever-throbbing heart. Looking upward from the same spot, I saw white clouds careering in close succession, in the opposite direction, through the bright blue sky,—the purified blood going outward by the arteries to repair waste and maintain vitality in every portion of the complex frame. How different, and yet how similar, are the mechanical arrangements whereby, in the larger and lesser systems, the pure blood is carried outward for use on one line, and the used blood carried back for purification on another, without any risk of collision on the way! No two things can be more like each other in character than the river system of a continent, as represented on a map, and the veins of a human hand, as seen through the skin. The Author of the mundane system is also the Author of organic life. He who holds the winds in His hand controls directly the world's supply of food. Famine scourges a land, or plenty gladdens it, according as these cloudy chariots with their load are sent in this direction or in that." *

Such views as these constitute the poetry of education, and

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* "Laws from Heaven for Life on Earth,"—Second Series, p. 382.

fill the youthful mind with loftier views of that world in which we live, and with more reverence for that God who made and ruleth all.

Conclusion. 178. If geography is to be taught at all in the spirit we have attempted to describe, it is evident that our teachers must not depend for their information on the trashy text-books with which the educational world is full to overflowing. This is a branch which more than any other can only be taught from a full mind. To teach it well requires much research, and much power of selection, arrangement and classification. Hence it were extremely desirable that those works, in our own and other languages, which treat on such subjects as are connected with geography, could be brought within the reach of all our teachers. The price of such works at present excludes them from the libraries of most teachers. Might not this difficulty be met by the establishment of educational libraries in all the leading towns of the kingdom, where teachers could have the opportunity of consulting all works connected with their profession? In the meantime, we advise the young teacher to read and digest such works as he can lay his hands upon, books of travels, newspaper notices of localities, &c., and from these he can obtain much useful information. Various well-arranged and moderately priced gazetteers exist, such as the admirable one by Dr Bryce, of the Glasgow High School, which would be of material assistance to the teacher in the preparation of his geography lessons. In a word, let the young teacher keep his eyes and his ears open, let him gather information from every source, and he will discover that the fuller his mind is, the more easy to himself will his teaching be, and the more interesting and profitable to his pupils.

EXERCISES.

1. Mention the principles on which you would select Geography lessons for young children.
2. Give the heads of a series of such lessons.
3. Explain how you would give to children the fundamental ideas of a map.
4. What is the right use of a map in teaching geography, and what of the black-board? Is there any advantage in sometimes drawing maps on the floor?
5. How would you give children a clear conception of latitude, longitude, the points of the compass, and the measurement of distance on a map?

6. Describe accurately the successive steps in teaching a child to use a map for himself.
7. What apparatus would be necessary to the efficient teaching of geography?
8. Compare the different kinds of maps, and state which are most valuable in an educational point of view.
9. State and illustrate the principles which ought to be borne in mind in the systematic teaching of geography.
10. In what respects is it better to aim at giving children a detailed knowledge of the geography of their own country, and how far a general knowledge of the geography of many countries?
11. Enumerate the means which you would use to fix in the memory of a child the physical geography of any country.
12. What use do you make of the black-board in a lesson on geography? Do you prepare the drawing before or during the lesson? Give reasons for the plan you prefer.
13. State and give reasons for the order in which you propose to teach the geography of any country.
14. What plan would you adopt in teaching children the elements of climatic, botanical, and commercial geography?
15. Give the heads of a series of lessons on climate, suitable for a mixed school.
16. Write out lists of lessons on the winds, the currents of the ocean, &c.
17. Write notes of a lesson on the "Gulf stream," &c., stating what apparatus and illustrations you would employ in conducting such a lesson.
18. At what age are children capable of receiving general views of the relations and connections existing among the various subjects included under the term geography?
19. Write notes of a lesson on the relations which subsist between "plants and animals," between "the winds, the clouds, and rain," &c.

CHAPTER XVII.—HISTORY.

History not identical with Chronology, nor a mere Series of Events.

179. History has been defined as philosophy teaching by examples. If this be so it is evident that a mere knowledge of isolated dates and facts does not constitute history; and yet this is the kind of history that is too generally taught in school. The whole history of the world, from the creation downwards to the present time, is arranged in the form of chronological tables; children are compelled to commit these to memory, and, having done so, are reckoned accomplished historians. If the only use of this branch of education were to enable pupils to repeat such tables accurately, this kind of

teaching might be profitable; but, if we look upon history as a great world drama, in which there have been many actors, each of whom, consciously or unconsciously, has been working out a predetermined result, manifestly the most minute and accurate knowledge of dates is a very unimportant item in our contemplation of the gradual development of the plot. Such knowledge is valuable only in so far as it enables us to fix down the time when some particular actor appeared upon the scene, or when some one act of the great whole was played out; but in regard to the part performed by this actor, or regarding the relations and connections of this act with those which go before or come after, it gives us no information. Without doubt, however, the latter kind of information is more important than the former; and just in proportion to its greater importance is the necessity to discard the idea that chronology and history are identical. Not only so, but it is of consequence to observe and note distinctly, that history is not really taught when we have communicated a certain number of facts relating to kings and queens, warriors and statesmen, victories and defeats, and such-like things. These, in their own places, are of value, but in the ordinary methods of teaching history a great deal too much is made of them. Such facts as we have mentioned constitute the bulk of the instruction. It is as if a person, in describing a country, should fix his attention on a few lofty hills or deep valleys, leaving out of view altogether the level plains, with their rich crops, the refreshing and life-giving rivers, and the minerals, which constitute so much of a country's real strength. Kings and queens, warriors and statesmen, occupy, no doubt, a very important place on the page of history, but they are of importance historically only in so far as they left their impress upon the age in which they lived, or became the exponents of a nation's inner life, of which their actions and exploits were the outward embodiment. History is thus not identical with chronology, nor with a mere series of independent isolated events.

Definition of History.

180. The history of a nation, like that of an individual, may be characterised as the embodiment in word and action of an inner life. The analogy between individual life and national life is closer than, at first sight, might appear. In the individual, we have word and

action as the exponents of the inner life which he lives. That inner life we cannot contemplate directly. We have no apparatus whereby we can lay bare a man's very spirit, and exhibit, in tangible form, the motives which influence and impel it in one direction or another. But where there is this inner life, it will manifest itself in words and deeds; and from a consideration of these we can divine the powers that hold paramount sway within. If the outer life be characterized by true words and manly deeds, we may well conclude that the fountain from which these flow is pure; but if, on the other hand, the words be untrue and the deeds base, we may as safely infer that the fountain is impure; "who can bring a clean thing out of an unclean." We can go even farther. In the outward manifestation of the hidden life there may be mixtures of what is good and bad—there may be signs and symptoms of a desperate internal struggle, and, from the preponderance of the good or the bad, we can infer on which side the victory will lie. Now, so it is in regard to the life of a people. We cannot discover that life directly or immediately. But it will be out; it must stamp its true impress upon its words and actions. And accordingly, from an examination of these words as found in the literature of the people at any given epoch, and of their actions as recorded in the page of history, or in the monuments left behind them, we can arrive at a knowledge of the real life the nation lived, can tell how far it lived nobly and holily, or wherein its life was devoted to base and unworthy pursuits, and can thus draw important lessons from the past for our guidance in the future. The true idea of history, accordingly, would be the actual reproduction of the life a nation lived at any given period; and, to have read it aright, we would require to be able to put ourselves in the exact position of those who played their part in the particular time we may select, to see as they saw, to feel as they felt, to love as they loved, to hate as they hated, to enter into their dwellings, and hear their common converse, in fact to become, for the time, so thoroughly identified with them as to count ourselves parts and portions of them. He has not read history aright, who cannot thus take into his reckoning all the circumstances which gave shape and form to a nation's life during any given era; and as all our teaching should have respect to quality, not to quantity, should be characterized mainly by the one great feature of putting our pupils on the road to the acquisition of real knowledge, we ought, in teaching this branch, constantly to bear in mind what history really is.

What ought to be aimed at in Teaching History.

181. In order to give children something like an accurate conception of the life of a nation during any given period, our teachers would require to make themselves familiar with much which they will not find recorded in any actual history. The history, as written by professed historians, may detail the series of events which characterized the period, but it will not transport us bodily into the very heart of it, and let us see, as with our own eyes, the mode of life, the dress, or the houses of the people, the national opinion, the progress which the kingdom has made in the arts and sciences, and the gradual advancement of civilization. Now, in order to arrive at this, the history of a kingdom could be divided into great leading epochs, each of which has its own peculiarities strongly marked, distinguishing it broadly from those that go before, as well as from those that succeed. Changes, as a general rule, are not the work of a day—they are gradual. Real progress is slow; and hence, for example, it comes to pass that we can, without much difficulty, divide the history of our own country into great leading epochs, each of somewhere about one hundred years' duration. Selecting one of these for illustration, the teacher would require to give his pupils some general idea of the appearance of the country, the state of cultivation, the facilities for communication, &c.; always comparing the past with the present, and using the present to illustrate the past. He would next direct the attention of the pupils to the amount of the population, and to the modes by which they earned a living. By means of pictures and descriptions, their dwellings, their dress, their household furniture, and those things which furnish the real tests of substantial comfort, could be pourtrayed. In a word, all that relates to what is called "manners and customs" should be brought vividly before the child, who would thus learn to look upon the men and women of by-past ages as veritable human beings, and not as mere shadows flitting faintly across the pages of some dry text-book of his-

tory. Having thus exhibited the people in their real every-day appearance, having peeped in upon them in the cottage or the hall, in the long winter evenings, or followed them, when their work was over, in the busy summer-time, to their games and amusements, having danced with them at their weddings, or mourned with them at their burials, having followed the solemn throng into the house of God, and thus become acquainted with them, and learned to regard them as men of like passions with ourselves, we are in a fitting position to examine into the life they led, as exemplified by the footprints which they have left behind them. How did the life they lived manifest itself—what events are recorded of them—what struggles had they with enemies at home or abroad—how did they comport themselves at those crises, which, both in the individual and the nation, are the true tests of real genuine manliness? A mighty armament, an invincible armada approaches, well fitted to fill all mean and selfish natures with fear and alarms. Does the nation tamely cry for mercy, or, rising omnipotent in its might, does it hurl defiance at the invader, and rush forth to meet him? These events thus become the means whereby we can penetrate the very hearts of those men whose dwellings we have already entered, and whose every-day life we have examined. Various other helps might be called in—such as the literature of the period. What thoughts were stirring the bosoms of the people—what aspirations after liberty or progress were being breathed. All these things stand imprinted on the current literature, so plainly that he who runs may read. The state of the fine arts—painting—statuary and, perhaps chiefly, architecture—can be made to tell most effectually on this important subject, as they all serve to throw light upon the national characteristics of the particular period which may have been selected for illustration. We have merely touched upon one or two things which would be necessary to the real, useful, and correct teaching of history. We have only glanced at, not exhausted, the catalogue; but the remarks we have made may serve to indicate to the young teacher what he ought to aim at, and how he may accomplish it. To accomplish it thoroughly would require an acquaintance with our literature and antiquities which few teachers can be expected to possess. It is well, however, to aim high—to set up a lofty (if it be not an altogether impracticable) ideal, towards which we ought constantly to strain; and, in regard to this branch of instruction, to remember that it is of more importance to teach children so to read history as to be able to draw lessons from it for their own guidance, than to impart to them the names and dates of all the battles which have fattened the earth since its creation until now.

Formation of Opinion among Pupils

182. Leaving religious instruction out of view, there is no branch of elementary education in which the teacher can exercise more direct influence in moulding the views and opinions of his pupils than in history; and, accordingly, it becomes a matter of the highest importance that he have formed opinions of his own upon the various events and characters which pass under review. The intellect of the child may be trained, and trained very thoroughly, by grammar or geometry; but as the child has other powers than intellect, as he possesses the power of becoming assimilated to those characters which have been held up to him as models for his imitation, it becomes a very serious matter to present to him in their true lights those men who bulk so largely on the stage of history, that while he copies that in them which is good and manly, he may, at the same time, eschew that which is bad and unworthy. Thus, in dealing with the history of our own country, it may be all very well for the morbid sentimentalist to weep over the fancied wrongs of Queen Mary, and to vent his bitter scorn upon such men as John Knox; but he who has learned to appreciate true greatness, will not hesitate to impress on his pupils the true characters of these two individuals—the one a vain deceitful woman, who cared for little but the indulgence of her passions, and the establishment of popery—and the other a true patriot, who loved his country, and who did more for its real advancement than all the kings or queens who ever occupied its throne. So also, in coming down to the times of the covenanters, the teacher who has learned to value aright the blessings of civil and religious liberty, will not fail to point out to his scholars that we owe more to these much maligned but truly noble men, than to the Grahams, M'Kenzies, and other favourites of romantic novelists and would-be-Jacobite poets. Not only should the characters of history be

thus presented to the pupil in their true colours, and stripped of all meretricious ornaments, but the events, which have changed the face of the world, should also be laid bare, so that the pupil may be able to discover the secret motives which produced consequences so momentous. Such a process will often be accompanied with rude shocks to the veneration which we may have been wont to cherish for the characters of those men who have played an important part in the history of their country. We may frequently discover that measures, which professed to spring from the purest patriotism, owed their origin to the desire of place and emolument; and that high principle is a much rarer thing among statesmen than at first sight would appear. Some might object to this style of teaching, but the objectors will, almost to a certainty, be found among those who, having no opinions of their own, desire that their pupils should have none either; and who are quite content to save themselves from the trouble of investigation and reflection by accepting as gospel the statements and reflections of some poor hack, who gets up a text-book on history to keep himself out of jail. Such teachers will not produce any good results—they will not educe the individuality of the child—nor cherish in him that independence of thought, which is of more price than all the set formal lessons which were ever learned. If the education of the boy is to have any bearing upon the man, if we recognize in the school-boys of the present day the men of the next generation, then it becomes evident that that education alone is worthy of the name, which, in so far as it goes, fits them for playing their part intelligently and manfully, which sets up beacons at those quicksands where their fathers foundered, and which supplies them with the chart and compass whereby they may safely navigate the troubled sea of life. As we have already remarked, of all secular branches, none is so well adapted as history to accomplish this end; and, accordingly, the earnest teacher will see to it that he renders his prelections something more than a dead letter. He will so vivify the characters and events of the past, that what is good in them will stand out prominently as objects fitted to win our admiration and love, and that what is evil will fill us with loathing and disgust. In this way, history may become philosophy teaching by examples.

Relation of Geography to History.

183. We have endeavoured, in the foregoing paragraphs, to set forth what the teaching of history ought to be. We shall now make a few remarks upon the plan by which the teacher may give his pupils a connected view of general history. A very considerable amount of instruction should be given incidentally, in connection with the reading lessons, and more particularly in the course of the lessons on geography. The geography lessons will have familiarized the child with the fact that his own country does not constitute the whole world; that other nations exist, with all or most of whom we have relations more or less intimate. Many of the leading events in the history of all these nations will also have been noticed, in connection with the places where they occurred. Indeed the more fully this kind of association has been dwelt upon, the more easy will the systematic study of history become; for the events thus brought under his notice will serve as centres round which the pupil will continually cluster new facts, until they assume something approaching to their chronological order; and if these events form, as it were, landmarks in history, they will be of invaluable service in assisting the memory to map out the whole field. Accordingly, in teaching geography, as was shown more fully in last chapter, the young teacher should be very careful to associate with places the events which have occurred there, for in so doing he is laying the best possible foundation for the study of history. Indeed these two studies should go hand in hand; for it is utterly impossible to understand the one without the assistance of the other. They throw light on each other, and it is as difficult to thread one's way through civil history without the guiding torch of geography, as it is through natural history without the aid of classification. The position of nations, geographically considered, exerts a most powerful influence upon their political relations. England and France, separated from each other by a narrow arm of the sea, have been sworn enemies for upwards of eight hundred years. The geographical position of these two nations explains, to a certain extent, the cause of this enmity. Not only does a knowledge of geography thus serve to clear up the history of nations, considered in their relation to one another, it is also indispensable to a correct acquaintance with the his-

tory of each particular state. This statement scarcely requires any illustrative examples by way of corroboration. It is self-evident. One cannot rightly understand the history of the civil wars in England, unless he is able to follow on the map the movements of the contending forces, and to discover a reason for battles having been fought at certain given places. The young teacher should never separate the study of history from that of geography.

Relation of Chronology to History.

184. Chronology, in its own place, is a valuable and indispensable adjunct to the study of history. It is necessary, however, to understand that we set little value upon the ordinary chronological tables, which are so frequently made to stand in the place of history. We have known pupils who could repeat from memory all the leading dates in the history of the Jews, but who stood stock-still when asked if the Crusades happened before or after the building of Solomon's temple. It is perfectly manifest that their dates were of no real service—it is even questionable if they tended to the cultivation of memory. Of far more importance than any such dates, is the power of taking in, at one view, the whole of the principal nations who flourished at any given period, and of having a distinct conception of their relations to one another. To attain this knowledge, it is not necessary to load the memory with yards upon yards of dates—all that is essential is to fix the great leading eras and to refer events to these. To render this the more easy, the whole history of the world might be divided into six great divisions, each of one thousand years' duration. These divisions could be represented by equal spaces on a large blank map, and then subdivided into ten smaller portions, each of which would embrace the history of one hundred years. At the sides of the map we would affix the dates, exactly as we do the degrees of latitude in an ordinary map. These divisions, drawn on a given space, would familiarize the pupils with the idea of the lapse of centuries and of cycles. Having thus prepared the historical chart, we would proceed to insert in it the names of the nations who flourished at any given time. It would thus be seen what nations were contemporary, when each nation appeared upon the scene, and when it finally sunk. Such a chart, which any teacher can easily

form for himself, would do for history what maps enable us to do for geography. We could, by means of it, attain to a pretty accurate conception of the relative position of nations considered chronologically.

Ancient History.

185. In dealing with general history, the teacher will find it advisable to select some one leading nation, and to group the others in relation to it. In ancient history there will be little or no difficulty in adopting this plan. Leaving out of view the history of the Jews, which on many accounts should be considered by itself, he might select at first the Assyrian empire, round which to cluster the history of ancient contemporary states. The leading facts in the history of the Assyrians could be brought under the notice of the pupils, and their conceptions, and consequently their memory, assisted by a pictorial representation of its annals in the form of a river. By means of the charts described in last paragraph, the empire could be traced from its first faint beginnings, until it attained its ultimate dimensions. The length and breadth of the river would assist the mind in retaining the duration of the empire, and its comparative extent at different periods; while, by means of the hundred year parallel lines, the chief events would fall into their proper places. Omitting minor states, we could represent the Babylonian empire by a parallel stream, but taking its origin at a much later period, while, later still, and more insignificant at first, we would have respectively the Medo-Persian, the Grecian, and the Roman empires. The streams representing these different kingdoms could be exhibited flowing on in lines, now increasing, now diminishing, now approaching each other, now receding, at certain points coming in contact, and again separating. In tracing the history of these empires, we would find the Assyrian empire flowing on as the chief river, expanding aye larger and larger, until, at a given point the Babylonian kingdom swallows it up, and becomes the main current. This again is, in its turn, devoured by the Medo-Persian, the Medo-Persian by the Grecian, and the Grecian by the Roman. If the pupils were set to prepare such charts, and to fill in, in their proper positions, the leading eras in each separate empire, and if these exercises were accompanied with oral explanations by the master, they would

acquire a more comprehensive and more valuable view of general history than can be obtained by the study of each individual kingdom. During the school life of a child, it is utterly impossible, amid the manifold subjects that must necessarily engross his attention, to find time to give anything like a detailed account of the history of each kingdom. It is of more importance to enable him to master the outlines of general history; to present him with the skeleton, and to put him on the way of filling it up and completing it by his own private studies. The advantage of having this clear outline in the mind's eye is, that the pupil can at once refer to its proper time any event of which he reads, and when any one nation is spoken of, he knows how, at any given era, it stood related to other nations. Thus, while a boy, whose attention was confined to the isolated facts of single states, could tell us that Babylon was taken by Cyrus in the year 538 B.C., he would, in all likelihood, be unable to give any information about the contemporary kingdoms of the world. On the other hand, a pupil, whose mind had been exercised on the general views we have glanced at, would associate with this date the fall of Babylon, and the rise of the Medo-Persian empire; but he could do yet more, he could tell us that the sun of Israel's glory was set long before, that the Assyrian empire had come to an end, and that, at the very time when the hordes of the Medes were thus pushing westwards, a power, small and insignificant, but destined to overturn the newly established empire, was being consolidated in Greece; while still further to the west, amid a few rude huts on a few as yet nameless hills in Italy, there was being nursed a hardy race, to whom one day the whole civilized world would owe allegiance. We need not wait to ask which of the two boys has received the better education.

Modern History.

186. In dealing with modern history, the same plan might be followed. After referring to the destruction of the Roman empire by the northern barbarians, and pointing out how new kingdoms and new principles of government arose out of the weltering chaos which succeeded that event, the history of our own country ought to be selected as the hinge on which that of the other European nations should turn. The self-same

principles should be followed here as in dealing with ancient history. The main outlines should first be given, and the details filled in as time and opportunity permit. Instead, however, of taking up all the petty details, and burdening the children's memory with these, the distinguishing features of each century should be prominently brought out, in the manner described in the first part of this chapter. Thus, the sixteenth century may be characterized as the century of the Reformation. This one fact impresses on it a character which gives a tinge to all the events occurring in it. Accordingly, the chief events connected with the Reformation ought to be pointed out, and their bearing upon the political history of the period noticed, and thus we give the pupils the means whereby they may unravel the tangled web of history during this century. Where did the Reformation begin—from what causes—what nations fell in with it—who opposed it—to what extent were its principles adopted in the different kingdoms of Europe? A knowledge of these facts furnishes us with an explanation of the relations and connections of European states during this century. The other centuries should be dealt with in a similar way. The teacher should always aim at giving his pupils the most general view possible—at enabling them to take in the widest prospect which is consistent with clearness and distinctness of vision. By such means, the history of modern Europe will appear to the pupils, not a mere labyrinth of confusion, but a well-defined and sharply outlined drama, consisting of several distinct acts, each with its own distinguishing characteristics, and in each of which the various European nations have played their own parts.

Institutions of Kingdoms, Rights and Duties of Citizens, &c.

187. Mixed up with the lessons on history, there ought to be a few, intended mainly for the advanced classes, on the institutions of the country, and on the rights and duties of citizens. This is a subject which is rarely touched upon even in our most advanced schools—for what reason we cannot well divine. It seems to us vastly more important than the teeming *ologies* which form such a large item in our modern education. Boys of fourteen or fifteen years of age may not be capable of appreciating to the full the advantages which we derive from

many of our time-honoured institutions, nor the disadvantages which flow from such equally time-honoured institutions as red tape and circumlocution; but they are perfectly capable of understanding and appreciating the difference between constitutional government and despotism—and between anarchy and the preservation of order. They can also be taught that, to secure civil liberty, each citizen must be curtailed somewhat in the exercise of his natural liberty; and that whilst in all our measures we ought to aim at optimism, we must be content in practice to stop far short of the wished-for goal. We are satisfied that the teacher has more in his power in this respect than he is generally aware of, and that he could do more by a few simple lessons to prevent strikes, chartism, and many other *isms*, than can be effected by Acts of Parliament. The opportunities of the teacher are great—let him not abuse them, but, on the contrary, use them in sending forth from his school those who may become good men and good citizens.

EXERCISES.

1. How would you endeavour to give to an advanced class of children a conception of the life of a nation, as distinct from the mere series of events in its history?
2. What is the most suitable kind of historical teaching for children under thirteen? Draw out such a scheme for this purpose as you would propose to adopt for your first class.
3. Distinguish between history, chronology, and a series of biographies.
4. In what order should military, social, and political or constitutional history be taught? At what age do you consider children capable of entering into the last of these three? Draw out a plan for the instruction of a pupil-teacher in history, during the fourth and fifth years of his apprenticeship.
5. What do you consider to be the chief purposes of teaching history to children?
6. Mention instances in which a teacher will be able to apply his own knowledge of the character of our constitution to the instruction of children in an elementary school, and write full notes of a lesson on one of these instances.
7. Draw up a scheme for a course of historical lessons to the two upper classes of a large elementary school, supposing the children to begin the subject at the average age of ten, and to quit the school at the average age of thirteen.

CHAPTER XVIII.—FORM AND COLOUR.—DRAWING.

The Training of the Senses much neglected.

188. The world of nature teems with manifold forms of grace, well fitted to call forth and to exercise the love of the beautiful, which, to a greater or less extent, glows in the breasts of all men. On every hand we have objects of surpassing loveliness, which fill the mind with delight, and lead it to rise in silent adoration to Him, who

> "Rules universal Nature. Not a flower
> But shows some touch, in freckle, streak, or stain,
> Of His unrivalled pencil. He inspires
> Their balmy odours, and imparts their hues,
> And bathes their eyes in nectar, and includes,
> In grains as countless as the sea-side sand,
> The forms with which he sprinkles all the earth."

To many, to the majority of men, indeed, this book of nature, so full of beauty, so rich in lessons of wisdom, is sealed. They have never once opened their eyes upon its countless wonders, nor have they seen in it anything specially worthy of their regard. They daily pass by forms the most exquisite in their symmetry and proportion, and colours the most harmoniously blended, without bestowing upon them even a passing glance; nay, they consider the man who loves these forms, and who is charmed with the combination of colours which appear in the natural objects around him, as something akin to an enthusiast or a dreamy visionary. To such men the words of the poet are applicable:—

> "A primrose by the river's brim
> A yellow primrose was to him,
> And it was nothing more."

They travel, in life's journey, through a world which, amid all the wreck produced by sin, still reveals glimpses of its pristine beauty, and testifies that it must once have been very good; but, in all this fair world, their eyes behold nothing but the glittering gold, or the objects which minister to their luxury or their sensuality. It becomes a very important question to determine whether this blindness arises from an original defect in the power of discerning and feeling the beautiful, or whether it is to be traced to the absence of judicious culture and training. We believe the answer will not be far to find. It will, we think, be admitted that there is no man who has not an intuitive love for the beautiful—that deep down in the innermost recesses of our being there are answering faculties to the beauties which nature exhibits. But while this is admitted, it is still true that unless these faculties are called forth and stimulated by the application of them to their proper objects, they will remain practically dormant, and the man be as if he had them not. They do not grow and bud and blossom spontaneously—they must be exercised before they attain their due development and proportions. By means of our senses—chiefly those of sight and touch—we can discriminate one form from another, and one colour from another, but, unless these senses be exercised by use, we cannot appreciate the harmony of colours, or the symmetry of forms, either simple or in combination. Accordingly, it is at this point where our educational processes are defective, where the *verbal* is allowed to tyrannize over, and so completely to overlap the *real*, that we lose sight of the latter altogether. We talk of forms, of the straight line, the waving line, or the curve; or we discourse eloquently, it may be, of the varied colours which compose the "triumphal arch that spans the sky," but all the time the form itself or the colour is a visionary thing; our scholars do not see the one or gaze upon the other until it becomes something more than a mere empty sound. The education of the senses is, to a large extent, overlooked in most schools, and to this neglect, more than to a want of power, must we attribute much of that blindness of which we have spoken.

The Education of the Senses beneficial Intellectually.

189. If a man's life consisted in the mere abundance of the good things which he possessed, it might not be necessary to cultivate the æsthetic faculties; but if we, in any faint measure, recognize the truth, that the world was made for man and not man for the world, that its Maker not only bestowed upon it that which might satisfy the mere bodily wants of his creatures,

but fitted it up very gorgeously with all that could minister to the delight and pleasure of an immortal being, then it is evident that it becomes a duty to call the attention of the young to those forms of beauty which cluster so thickly around them. Considered simply as a mere source of pleasure, we might thus advocate the cultivation of the senses. That such an object is lawful no one will venture to deny. But as a means of intellectual training, the cultivation of the senses is highly important. The difference between one man and another in regard of intelligence may be traced, in a very considerable degree, to the fact that the one has gone through the world with his eyes open, whereas the other sees only a few near objects, and these imperfectly. The poet sings very beautifully:—

> "That which may profit and amuse is gathered from the volume of creation,
> For every chapter therein teemeth with the playfulness of wisdom;
> The elements of all things are the same, though nature hath mixed them with a difference,
> And learning delighteth to discover the affinity of seeming opposites;
> So out of great things and small draweth he the secrets of the universe,
> And argueth the cycles of the stars from a pebble flung by a child.
> It is pleasant to note all plants, from the rush to the spreading cedar,
> From the giant king of palms, to the lichen that staineth its stem;
> To watch the workings of instinct, that grosser reason of brutes,—
> The river-horse browsing in the jungle, the plover screaming on the moor,
> The cayman basking on a mud-bank, and the walrus anchored to an iceberg,
> The dog at its master's feet, and the milch-kine lowing in the meadow:
> To trace the consummate skill that hath modelled the anatomy of insects,
> Small fowls that sun their wings on the petals of wild flowers;
> To learn a use in the beetle, and more than a beauty in the butterfly,
> To recognize affections in a moth, and look with admiration on a spider.
> It is glorious to gaze upon the firmament and see from far the mansions of the blest,
> Each distant shining world a kingdom for one of the redeem'd;
> To read the antique history of the earth, stamped upon these medals in the rocks
> Which design hath rescued from decay to tell of the green infancy of time;
> To gather from the unconsidered shingle the mottled star-like agates,
> Full of unstoried flowers in the budding bloom—chalcedony;
> Or gay and curious shells, fretted with microscopic carving,
> Coralines and fresh sea-weeds, spreading forth their delicate branches.
> It is an admirable lore to learn the cause in the change,
> To study the chemistry of nature, her grand but simple secrets;
> To search out all her wonders, to track the resources of her skill,
> To note her kind compensations, her unobtrusive excellence.
> In all it is wise happiness to see the well-ordained laws of Jehovah,
> The harmony that filleth all his mind, the justice that tempereth his bounty,
> The wonderful all prevalent analogy that testifieth one Creator,
> The broad arrow of the Great King, carved on all the stores of his arsenal."

These beauties and wonders of which the poet sings are free to all, but they are visible only to those who, like the prophet's servant, have had their eyes opened to behold them.

Education of the Senses important in the business of life.

190. We might urge the desirableness of including instruction in form and colour in the course of elementary instruction on many other grounds. It is to the absence of this instruction that we must attribute that want of taste which characterises our nation so strikingly, when contrasted with some of those on the continent. It is, perhaps, not too much to say that among the middle and lower classes we shall not find one in a hundred who has any acquaintance with those things which constitute the real beauty of, and the true test of merit in, the buildings, pictures, &c., which they look on every day. It is no rare sight, in a commercial country like ours, where so many rise from comparative obscurity to affluence, to find large and elegant rooms, between the paper and carpet of which there exists not the remotest attempt at harmony of colour. The walls are covered with pictures, gorgeously framed, but they are arranged without any regard to the effect which a due harmonious blending of lines and colours would produce. So it is in articles of dress. Taste is not regarded. Flaring colours—whatever can strike and stun the beholder—are more thought of than any regard to the effect of the dress as a whole. It need scarcely be said that the due cultivation of our æsthetic faculties would be of vast service to us as a manufacturing people. The great proportion of the designs employed in our manufactures is the production of foreign artists. This cannot be attributed to an innate want of taste in our population. As already remarked, it can be clearly traced to the defective means existing for art education. Nor need we wait to point out the beneficial effects which would flow to the whole body of the people from a practical appreciation of the beautiful in nature and in art. Such knowledge might not render them richer—might not feed them with daintier food—nor clothe them with costlier raiment, but it would refine and elevate their minds, tend to withdraw them from the pursuit of low and grovelling pleasures, and so far act as a powerful lever in raising them from

the filth in which so many of them wallow. In the following paragraphs we shall make a few remarks on form and colour, and conclude with some observations on elementary drawing.

Apparatus necessary for Lessons on Form.

191. Children ought to receive lessons on form from the very day they enter school. The same method should be adopted in these lessons as in those on any other branch. The simple should have precedence of the complex, and the lessons should be regularly graduated. In all cases the lessons should be associated with objects—the concrete should form the basis of the instruction. When a lesson on any particular form has been given, the children should be made to search for illustrations of it in the objects around them with which they are familiar. It is in this way that these lessons will become practically useful, and will tend to cultivate habits of observation and attention, which, in the intellectual development of childhood, are of inestimable value. The instruction should embrace lessons on form, of three dimensions—lines, plane surfaces, and solids. For the purposes of clearer illustration, it would be desirable that all schools were furnished with models of the more common solids, with a box of wooden bricks, and with various pieces of wood of different shapes, so as to exercise the invention of the pupils in devising new forms and figures. This would supply not merely pleasant amusement but substantial instruction. The children should also be required to draw figures of the different objects examined. For this purpose all that is essential is a slate and pencil. In mixed schools it is often a most difficult thing for the master to find suitable employment for the younger pupils. The exercises we are now speaking of may be made useful, to a certain extent, in supplying the desideratum. The teacher, however, must beware of employing them merely as a means of killing time. They must be gone about systematically, and either the master or a trustworthy pupil-teacher must assume the superintendence of them.

Lessons on the Straight Line.

192. The early lessons may refer to the straight line. Having arranged the pupils in the gallery, each with his slate and pencil, the master, stand-

ing before the black-board, may draw a perpendicular line upon it. When this has been done, the pointer, a cane, or any similar object, may be held before the children in a perpendicular direction, and they should be asked how the pointer is placed. The answer, in all likelihood, would be—*straight up and down*. This phraseology ought to be accepted, and, indeed, in all early lessons, the attention should be turned more to the fact that the children comprehend the idea, than that they give the exact technical term expressive of it. The technical terms, however, should be gradually introduced, that thus the child's vocabulary may be increased. To arrest their attention still more to the perpendicular line, two lines may be drawn beside each other, the one perpendicular, the other slanting or oblique, and, at the same time, two pointers or rods held in the same relative positions. Still further, a number of straight lines may be drawn all at equal distances from each other, and thereafter, in a subsequent lesson, at unequal distances. The pupils, in copying such lines upon their slates, acquire the important habit of measuring distance by the eye, which in writing, drawing, &c., is of great and essential service. The horizontal straight line should then be introduced, and dealt with in a similar way. The perpendicular and horizontal lines may then be combined, first to form a right angle, and then at various degrees of inclination. Thereafter they may be combined to form a rectangular figure, &c. The teacher should actually draw all these figures in the presence of the children, should question them, in a very simple style, upon them, and thereafter ask for illustrations. Thus, taking the rectangle, what do you see like it in shape? various objects would at once be named. To convey to the minds of the children an absolute demonstration that these objects do resemble the rectangle drawn on the board, the teacher can take one of them, a slate for example, lay it flat on the board, and then draw the chalk along its sides and ends. On lifting the slate a rectangle is left. The straight line may be still further combined to form the various plane figures, the triangle, square, the pentagon, the hexagon, &c. There is, in fact, scarcely any end to the multiplicity of forms which may be produced by combinations of the simple straight line. The teacher can easily form lessons at will.

Lessons on the Curve.

193. The curve should be introduced to the notice of the children after the straight line. A straight rod, and one bent like a bow, might be presented to them. What difference do they observe between them? which is straight? which is bent? Draw these forms on the board, the children imitating the example on their slates. A penny, or shilling, may be presented, or any sort of ring. What is its shape? What difference do you see between it and the bow? It is round all the way. Do you know any other objects round like the sixpence? Any at home? The figure should then be drawn on the slates. Wheels, in which there is the combination of the circle and the straight line, might also be introduced, and at a somewhat later period curves which are not exactly circular—the oval, and so on. The main point to be attended to in all these lessons, is to teach the children to observe carefully the forms of familiar objects, and to express their observations in correct clear language. Various natural objects, as well as works of art, should be brought under their notice—the leaves of trees, with the endless diversity of form found to prevail among them—the roots and stems of flowers—shrubs, and trees, &c. All nature might be made tributary to the education of the child, who would thus be trained to behold the goodness of that Being, who has strewn around him so many objects fitted to instruct and delight.

Lessons on Solids.

194. In dealing with solids, it would be desirable, as we have already intimated, to have models to exhibit to the children. But even without these, much information may be communicated. A pillar furnishes an example of the cylinder. A common drum is an object which all the children will have seen. A boy's top resembles a cone. A pyramid can be built from the wooden bricks, and so on. There is scarcely one of the solid figures but may be traced in objects perfectly familiar to the children. What they require is to have their attention turned to these figures—to be led to examine them—to discover their shape absolutely, and relatively to other figures. Thus, What do you observe about the shape of the pillar, or the round ruler? What do you notice regarding its ends? regarding its surface? What figure forms the ends of it? &c. Can you

name any other object similarly shaped? Various examples will at once be given when the true nature of the figure has been thus explained. The other solids should be examined and illustrated in a similar way.

Application of these Elementary Lessons.

195. These preliminary lessons pave the way for an examination into the combination of forms as seen in various articles of furniture employed in houses, in buildings, and in works of art, &c. Thus, for example, a sofa or a chair might be analysed, and the children required to point out the various forms which appear in it. Of what form are the feet? the arms? the top? How many different forms appear in it? Could you have arranged these forms in any different way? Could you have introduced any new forms into it? Look at the roof of this room—Of what shape is it? The black-board and all the objects which are more commonly met with by the children should thus be examined. Lessons of a similar kind should be devoted to the works of nature. A tree, an icicle, animals, &c., should thus be examined, and the children made to describe their forms.

Lessons on Colour.

196. Lessons on colour should go hand in hand with those on form. The lessons should aim at imparting to the pupil the power of discerning colours —of distinguishing one from the other. No attempt should at first be made to initiate him into the theory of the harmony of colours. This belongs to a subsequent stage, and before it can be accomplished successfully, the eye must be trained to recognize the different colours, and be able to tell which of them harmonize with each other. This can be most effectually accomplished by presenting to the pupil harmonious colours in combination, and thus accustoming him to *feel* the harmony, before he commences to theorize upon the cause of it. The primary colours should first be presented to the child, so that he may learn to tell the one from the other. These colours may be exhibited on slips of paper, or in pieces of cloth, and the attention of the pupil so turned to them that he can have no difficulty in recognizing them. When this has been done, he should be required to name the colours of various objects, and to find out for himself natural objects, such

as flowers, in which these colours are found. These exercises will not only amuse the child, they will train him to examine minutely the various objects which come in his way, and thus his faculty of observation will be strengthened, and habits of great consequence to his intellectual advancement formed. The primary colours being thus acquired, the next step is to train the child to feel that certain colours are harmonious, and that others do not so harmonize.—"Without descending into particulars, we state that *red* and *green* are harmonic colours, and *blue* and *yellow*. If the *red* verges upon *orange*, the *green* must be *bluish-green*, and if the *blue* verges upon *green*, its harmonic *yellow* must verge upon *orange*. The reason why these colours harmonize with each other is, that *red* and *green*, and *blue* and *yellow* make white light. For the same reason, any number of colours in a painting would be harmonious, provided they are in such proportions as to make white light." * Now, in order to familiarize children with these simple but important facts, it would evidently be absurd to state the facts, and cause them to be committed to memory. Such a method would not advance the pupils one step in the knowledge of the subject. The plan which ought to be adopted is, to exhibit to them these harmonic colours, and thus train the eye to recognize, and the mind to feel the harmony. Here again the teacher may employ slips of paper, or different pieces of cloth, and the pupils should be taught to find illustrations of the subject in the objects of nature. Let no one consider such lessons as unimportant. They supply "a species of knowledge of essential importance in the art of painting and in all the decorative arts." Were this knowledge more generally diffused, the eye would not be offended with that want of harmony in colour to which we have already alluded, and badly executed paintings would not be tolerated. We have frequently observed, in a gallery of paintings, that the uneducated were most impressed with those pictures which abounded most in glaring colours, whether these colours harmonized or not. Were the eye properly trained, such things could not be. We cannot, in the limits of a work like this, enter on a full discussion of the theory of colours; we content ourselves with calling the teacher's attention to the subject, and must refer him for fuller information to works professedly treating on colour.

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* "North British Review," No. 57, page 197.

Lessons on Drawing.

197. While these elementary lessons have been going on, the pupil has been acquiring much that fits him for entering upon drawing and painting, which consist in representing to the eye the various forms and colours of which we have been speaking. As it is our object to treat only of what may be accomplished in an ordinary elementary school, we shall not enter at great length on the subject of drawing. We shall not make any remarks upon its advantages as a means of mental discipline, nor upon its use in the actual business of life. We may simply express our regret, that so little of it is taught in our elementary schools, and, at the same time, our earnest hope that, since attention has of late been so much turned to the subject, it may become one of the ordinary branches of school education. It is not necessary to carry the pupils to a very great length, but it would surely be no difficult matter to train children to draw, easily and without effort, the forms of the more common objects around them. This is all we would seek at present, but we are satisfied that, if even this much could be attained, the benefits accruing from it to the pupil and to the community would be great.

Apparatus.

198. The apparatus needed to teach the elements of drawing are few and cheap. At first all that is really essential is a slate and slate-pencil, with a black-board. At the present day these are to be found in every school. Instead of the slate, paper may be employed, in which case a softish black-lead pencil is necessary. The pupils should be arranged in the same order as in writing—at the raised benches—all facing the master, who draws on the black-board the form which he wishes the pupils to imitate. As, however, we believe, in direct opposition to the wise and learned authorities of the "Department of Science and Art," that it is impossible to teach drawing to a large class simultaneously, it would be necessary, in addition to the black-board, to have a supply of drawing copies, which can be obtained now at a very reasonable rate. Each pupil should be supplied with one of these, exactly as he was

with the writing models when learning to write. When a copy has been presented to any boy, and before he commences to imitate it, the master should analyse it for him on the black-board, and show him the combination of forms that compose it, and their relations to one another. In regard to the order of study, we present the following hints, kindly furnished by a professional friend, who has had much experience in teaching drawing in elementary schools. *

Series of Elementary Lessons.

199. "When a class is large, consisting of from 40 to 60 pupils, it is better, perhaps, to commence with lessons on the black-board, the figures being drawn with chalk, the pupils making copies on slates; but it is not advisable to continue this for any great length of time, as it would be highly unjust to cause those who display an aptitude for the study, to keep pace with those who exhibit merely ordinary ability, or with those who are decidedly dull. Of course the latter act as weights to the former, and drag them down, as it were, to their own level, and this is the reason why the individual system is superior, as regards the teaching of drawing, to the simultaneous. These initiatory lessons should be extremely simple, consisting at first of straight lines, and afterwards of straight lines and curves, and should be pure geometrical elevations of common things, such as are likely to interest the young. After a short time the more advanced should be selected, and formed into a distinct class; the drawings being made on paper with a lead pencil. We should commence with straight lines, for, however well the pupils may have drawn previously on slates, it does not follow that they will draw equally well on paper. The slate pencil has been familiar to them, perhaps for years, but the lead pencil is, in most cases, altogether new. It may be well to mention that this is the most important part of the course; the straight lines form, as it were, a basis upon which the entire superstructure must rest, and, accordingly, this part of the subject should be most thoroughly taught; for it is not merely a matter of drawing lines, it is also a lesson on taste. These straight lines, vertical, horizontal, and oblique, with equal spaces between, should be so

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* Mr Lyne, Head-Master of the Dublin School of Art.

arranged upon the sheet as to produce an agreeable impression on the mind ; *i. e.*, harmony and balance should be considered. This should be insisted upon from the very first, or there will be something afterwards to unlearn. When the pupil can draw these sufficiently well, a combination of vertical and horizontal lines should follow, the latter bearing a certain proportion to the former, say $\frac{1}{2}$, which is the simplest. This will produce a fret; afterwards oblique lines combined with vertical, which will produce a zig-zag, should be taken up. It is supposed that, by this time, the pupil has acquired some degree of facility in the use of the pencil, or hand power, and it will be proper to proceed to curved lines, the teacher drawing a single curve on one side of a vertical line, and causing the pupil to draw the other side ; and let it be remembered that the side drawn by the master should not always be the right, or always the left, but right and left alternately ; for, if not, the pupil will acquire a power of drawing one side, but in many instances he will be unable to draw the other. This exercise may be followed by two curves drawn in the same manner on one side of a line, and afterwards by combinations of curves and straight lines to produce elegant foliated figures, vases, &c., for it is well to accustom the eye as soon as possible to beautiful forms. When the pupil is able to execute these exercises with neatness and accuracy, he may be allowed to copy simple figures from flat examples the size of the original, but for a short time only, as his faculties will be more exercised and his reasoning powers more fully brought into play when made to *enlarge* or *reduce* the figures that are placed before him. For this purpose the set of drawings known as 'Dyce's Outlines,' and 'Outlines of Familiar Objects by Art Masters in connection with the Department of Science and Art,' are perhaps the best. This course will occupy at least a year, supposing that two, or even three hours a week are devoted to the study. As few elementary schools can afford two or three hours a week to the study of drawing, the course briefly sketched would occupy several years.. It is evident, however, that the power of drawing, even to the extent indicated in the foregoing remarks, would be a mighty boon to children ; and that those who received such a course of instruction would be enabled to prosecute the study, according as time and inclination permitted. Perhaps elementary schools should not be expected to do much more in regard to this branch than what we have indicated, except in the case of the few who display a decided taste for the subject. These might be carried still farther, and thus be prepared to enter the drawing schools which we hope soon to see established in every town."

EXERCISES.

1. What do you understand by the education of the senses?
2. What benefits might flow from a systematic course of lessons on form and colour?
3. How do you propose to teach children to recognize different forms?
4. Give a series of lessons on form, suitable to young children.
5. How do you propose to teach children to recognize and distinguish colours?
6. What place ought drawing to have in a course of elementary education?
7. Write out what you would consider a proper course of instruction in drawing for an ordinary elementary school.

CHAPTER XIX.—VOCAL MUSIC.

Music should be taught early.

200. The cultivation of vocal music has been, and still is, very much neglected in many elementary schools. Indeed, it is only of late years that the conviction has become at all general that it should form a regular branch of instruction. Children were left to pick up a knowledge of music as best they could; and the result too generally was, that all remained ignorant of it, with the exception of the few who were naturally gifted with strong musical talent. As a consequence of this state of matters, the psalmody of our country degenerated to a point beyond which it could scarcely sink. But as the darkest time of night is that which immediately precedes the dawn, so this low condition of our congregational psalmody was the means of rousing public attention to the subject, and of ushering in the dawn of a more propitious day. We need not point out the benefits which would accrue to the people from an acquaintance with music; nor need we advance any arguments in favour of commencing the study in early life. Like all the other faculties with which a beneficent Creator has endowed us, that of appreciating musical sounds can be

strengthened by practice; but the longer the faculty is allowed to lie dormant, the more difficult will it be to call it forth and train it aright. Hence the necessity of beginning with the young. Children are instinctively fond of music. The nurse soothes the young infant with snatches of some simple melody, and the smile on the little cheek betrays the pleasure which the song conveys. As they advance in years, children manifest a strong liking for all kinds of music, and readily pick up those tunes which make the deepest impression on their minds, or which they are in the habit of hearing most frequently. These are facts familiar to all who have had to deal with children, and it must be evident to any one, who has reflected on the subject, that all that is necessary to render them tolerable, if not good musicians, is to accustom the ear to musical sounds, which will thus be acquired with little apparent effort. Continuous systematic training, begun in infancy, and carried on during the whole period of the child's school life, will accomplish far more than any amount of convulsive spasmodic exertion, put forth at a later period.

Advantages of Music in Schools.

201. Apart from the direct advantages which flow from a knowledge of music, there are some aspects in which its presence in a school may be rendered very beneficial. In an infant school, it is an indispensable requisite, and an individual might as soon think to govern a kingdom without laws, as an infant school without music. Its soothing or exhilarating effects, as the nature of the case may be, are well known, and may be used as a powerful instrument of discipline in infant as well as in more advanced schools. Much of the restlessness which characterizes children in school results from their being kept, for too long a time, at one particular subject. They are naturally fond of variety; and more harm than good will flow from continued application on their part to any one branch. It is a common sight to see a teacher putting forth great efforts to secure attention, but with very little effect. The reason is, that the minds of the children are fatigued—they have been kept too long on the stretch, and desiderate a change of employment. In such cases, and they are of daily occurrence, a few minutes devoted to the singing of some favourite song will do more to enliven the pupils, and to rouse their flagging

interest in the lesson, than any amount of threatening or of punishment. Music may be still further employed as a sedative. When the children are taking their places, and arranging themselves previous to the commencement of any lesson, it will be found that there is comparatively little risk of confusion or of disorder, if they are allowed to do so to the music of some soothing melody. In moral education the power of music is great. Truths and sentiments of the highest importance may find a lodgment in the heart from being associated with some pleasing tune, and there may thus be accomplished what could never be effected by direct appeals, or by wordy exhortations. Doctrines and opinions, which, if expressed in plain unvarnished prose, might be perfectly innocuous, may become potent engines of good or evil, when expressed in verse, and when married to airs familiar to the common people. It is on this account that many of the songs of our national poet have been branded by the reprobation of all good men. Had Burns set himself to lecture his countrymen on the great benefits and pleasures of drunkenness, we question if even his genius would have rendered his lectures popular. But by clothing his teaching in exquisite poetry, and by linking this poetry with some of the most cherished of our melodies, he has exerted an influence, the force of which is well nigh incalculable. The school music might be made the means of counteracting the pernicious effects produced by bacchanalian rants; and of impressing, on the highly susceptible minds of youth, truths of the highest value to their present and future welfare. We forbear from enlarging on the direct benefits which a knowledge of music confers. We need not point out the many avenues to real enjoyment which it opens up; nor the use to which it ought to be turned in matters directly religious and devotional. These are so well known that to enter on them would be a waste of time.

Method of Instruction.

202. In teaching young children to sing, it seems to us that the same method should be adopted as in teaching them to read. We do not commence to teach reading as soon as the child begins to speak. We allow him to acquire by imitation all the familiar sounds of the language; and it is only after he has done this that we set about teaching him the symbols by which these sounds

are represented. Now, so it should be in music. To commence with symbols first, and afterwards descend to the thing symbolized, reverses nature's method. Accordingly, before commencing with the notation, care should be taken that the child knows the musical sounds, both separately and in combination. Teaching by the ear should thus precede teaching by notes; and the latter should not be taken up until considerable proficiency has been attained in the former. The children should be taught a variety of simple tunes, and having thus learned to feel and appreciate musical sounds, they will be prepared to enter, with advantage, upon the reading of music. To read music will then appear no new acquisition, but simply the power of interpreting the marks employed to symbolize sounds with which the ear is already familiar. We are persuaded that a great deal of the difficulty which attends the reading of music results from forgetfulness of this simple principle. Children are required, in too many cases, to learn the symbols first, before they are thoroughly acquainted with the idea which is thus symbolized. Staves and leger lines, flats and sharps, naturals and accidentals, minims, crotchets, quavers, demisemiquavers, and such like terms, are introduced to their notice, while all the time the mind has not learned to feel the thing which these terms represent. Need we wonder that children turn away in disgust from such nominalism, and find no pleasure in music when thus taught. The Tonic Sol-fa method of teaching to sing at sight may be regarded as a practical protest against the needless difficulties which encumber the old notation; and it becomes of importance to ascertain if the method is efficient. After a careful investigation into the whole matter, we have no hesitation in giving it as our decided opinion that the method is thoroughly efficient, and that its universal adoption in schools would be attended with the happiest results in so far as singing at sight is concerned. We recommend our readers to examine the matter for themselves, and we are convinced that an impartial examination of such a work as "Curwen's Grammar of Music" will at once satisfy them of the practicability of teaching children to read music with as much facility as they read an ordinary book. We do not deem it consistent with our design to give a series of lessons on elementary music. Our object is attained when we lay down the principles which underlie the instruction; and we content ourselves with calling the reader's attention to a work in which he will find the order of study, and practical hints to teachers, given with an explicitness and precision which leave little to be desired.

New Musical Notation.

203. In connection with the teaching of music in schools we have had under our notice a new musical notation which has been recently invented, in which it is sought to combine in one the advantages of the sol-fa, and the old, or staff, notations, by inserting the sol-fa letters of the one in the head of the notes of the other. In this way the tonic principle of always singing from a key-note is combined with the obvious advantage of a visible picture of the rise and fall of sounds which the staff notation presents. This new notation is known as "Hamilton's Patent 'Union' Musical Notation;" and we have the authority of several teachers for saying that, by its means, the reading of music is taught with great facility to children. It has, besides, the advantage of being an excellent stepping-stone to the reading of the old notation; while those who are already either old notationists or sol-faists have no difficulty in singing from it. A little book of school exercises and songs for children,* printed in this notation, is now before us. It is full of pleasant melodies united to suitable words, and, independently altogether of the notation in which it is printed, must form a valuable addition to the teacher's present very meagre selections of musical exercises for children.

Selection of School Songs.

204. Of making school songs there is no end. Men who have not one spark of poetry in their nature, who have not the smallest grain of the gift divine in their composition, who are as prosaic as it is possible for flesh and blood to be, conceive they have a call to compose songs suitable for children, and so commence rhyming. In no other way can we account for the multitude of trashy, wordy, utterly contemptible, and childish rhymes, which are, at this present time, inundating the educational world. And

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* "The Union School Singing-Book, a first lesson book for children in Singing at sight," price 4d. Wm. Hamilton, Glasgow. F. Pitman, 20 Paternoster Row, London.

what makes the case still worse, is, that these versifiers have the consummate impudence to associate their words with some of the finest of our national airs. Conscious apparently that their rhymes would soon sink, from their own inherent gravity, into merited oblivion, they endeavour to float them into notice by hooking them on to favourite tunes. This is intolerable; and we would urge upon our readers the absolute necessity of withholding all encouragement from such poetasters. It is painful and disgusting to hear some of the simple, heart-stirring melodies of our own and other countries thus disfigured and dishonoured by the attempt to marry them to drivelling verses. No doubt, in many cases, the words associated with certain airs are not of a kind fitted to be taught to children. Let all such words be banished from school. But, in selecting other words to be sung to the tunes in question, let them have the quality at least of being true, manly words—the utterance of some real poet, and not merely sickly sentimental stuff, manufactured by one who has simply the power of stringing rhyming words together. But, while many songs are not thus of a kind suited for schools, there are others which can boast of decent parentage and respectable antiquity, which, we confess, we should like to see taught in school. We cannot, for our own part, see any objection to the introduction into elementary schools of such songs as "Scots wha ha'e," "John Anderson, my jo," and others of a like kind, so simple in their touching pathos, so true in the sentiments they express, that they must maintain their position so long as the human heart remains constituted as it now is. The remarks we have made apply with equal force to what are termed moral songs. The morality taught in many of them is of a very questionable kind. Even in hymns there is much room for selection. The piety inculcated in some is of a nature not adapted to form vigorous characters, and the doctrines of others we should be sorry to impress on children. In regard to the whole matter we advise the teacher to exercise a searching, manly discretion; to reject, without hesitation, what does not tend to foster and cherish true manliness and genuine piety—an inseparable pair; and to have no scruple in casting forth, as vile and pernicious, all pieces which have not the preserving aroma of reality.

EXERCISES

1. Apart from the direct benefits of music, state some of the uses to which it may be turned in school.
2. State the method you would adopt in teaching children to sing.
3. What principles ought to be kept in view in making a selection of school songs and hymns?

CHAPTER XX.—ORAL LESSONS.

Sphere of Oral Lessons.

205. We have had occasion, in the previous chapters, to point out incidentally that much of the instruction which children receive in school should be given in the form of oral lessons. Convinced as we are that oral instruction, if judiciously conducted, is one of the very highest resources of the educator, we propose in this chapter to enter somewhat minutely into the subject. This kind of instruction ought to be employed in dealing with the principles of all the ordinary branches of school education. We have already shown that text-books are mainly valuable, in that they present a connected and systematic view of any subject, and supply the various definitions and technical terms employed in connection with it. But no text-book can furnish information in principles, so clear and so conclusive as to supersede the necessity of oral instruction on the part of the master. In treating of such branches as arithmetic, geography, or grammar, by far the most valuable part of the information—that, namely, which relates to the fundamental principles on which these sciences are based—to be given successfully, must be given orally by the master. We have already given specimens of such oral lessons, and need not enlarge upon them here. But, in addition to these regular stereotyped branches of education, much useful and highly important information may and should be communicated to children in school—information which no series of text-books can adequately supply. We refer to incidental oral lessons upon various portions of natural history, natural science, and upon what has been termed in these modern days "common things." The books used in school too generally deal with dry abstract subjects—while the little world in which the

child lives, his home—his food—his garments—the air he breathes—the various operations which he sees going on around him—are carefully and most religiously shut out from school. As we shall have occasion in the sequel to give lists of lessons suitable for oral instruction, we need not dwell upon them at present.

Lessons on Common Things.

206. In all these oral lessons, the knowledge acquired should be directed to practical purposes. In this way the child becomes acquainted with the "science of common things."* The mere knowledge of principles, whether in the region of natural or moral things, does not imply the power of directing that knowledge to practical use. It is quite a possible, nay it is, unfortunately, a too common thing, to find a person whose creed is thoroughly orthodox, and who has a clear intellectual discernment of the relation of the various doctrines which constitute that creed, but whose practice is sadly at variance with his belief. So it is in natural things. Our education is too formal. It is too much shackled with absurd conventionalities. We give our pupils much knowledge, but little wisdom. We supply abstract principles, but no directions as to their application. Now it must be borne in mind that we do not speak here of the attempt which some hair-brained visionaries have made

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* This is a science which has of late years sprung into great repute, and has been fortunate (so we are told) in obtaining the patronage of certain persons high in rank. To give lessons to children upon the practical application of knowledge has been looked upon as a discovery of yesterday, while the fact is, that, for the last thirty years, such lessons have been constantly given in the schools established by the late Mr David Stow, who spent a long and not inglorious life in endeavouring to impress upon the public mind the all-important fact, that mere knowledge, without the power of applying it —whether the knowledge refer to material or spiritual things—does not constitute education—that, in short, knowledge and wisdom are two entirely different and by no means interchangeable terms. If there is any one point brought out more prominently than another in his "Training System," it is the one of which we are now speaking, and yet, with rare exceptions, men refuse to acknowledge the source from which they have derived those ideas, which they attempt to palm off upon the public as discoveries of their own. It is characteristic of the toadyism of the present day to find high functionaries heaping the incense of flattery upon the heads of noblemen, who have no more title to claim the credit of being the first to discover the importance of this branch in school, than they have to claim that of the discovery of the law of gravitation. It is questionable morality which borrows terms and modes of speech, embodying great educational truths, and yet refuses to own the source from which they have sprung.

to convert the school into a general workshop, where the boys are taught shoemaking, tailoring, and other trades; and where girls are trained to bake and wash, and to perform such-like domestic operations. We have already lifted up our voice in solemn protest against the introduction of such things into the elementary school. Much of our education has been, no doubt, an unreal, a visionary thing; much of it has been concerned with words, and nothing more, and, perhaps, it was natural, when a reaction set in against this state of matters that many should err in the other extreme, and deny the use of knowledge of any kind which could not be immediately applied to practical purposes. We make no reference here to such attempts as these; but, while we deprecate with all our might such misapplications of the child's school life, we would insist on giving the child as much information as possible upon the application of those principles which we present to him. Thus, in dealing with the atmosphere, while we would give the child a knowledge of those ingredients which compose it, and of the laws which regulate it when in motion, we would also give him information upon the connection which subsists between health and a constant supply of fresh air—of the means whereby a dwelling-house, or other building, may be safely and effectively ventilated—of the cause and evil results of draughts, &c.; so, when speaking of dwelling-houses, we would not only unfold the nature of the material employed in constructing the edifice, but also the necessity of having a dry foundation—how this might be obtained—the evils consequent upon overcrowding, &c. We would not only teach the child the philosophy of the art of swimming, but that it is unsafe to bathe in all states of the body, &c. These illustrations will serve to show what we mean by the science of common things. The advantages arising from such lessons are obvious. The child associates the abstract principles of science with the common affairs of every-day life, and finds illustrations of them in objects the most unlikely. His interest is thus continually kept up, and, when he leaves school and enters on the actual battle of life, instead of performing his work blindly and in virtue merely of imitation, he does it with the intelligence of a man who has learned to trace the relations which subsist between theory and practice. We are satisfied that, were lessons of this kind more common, they would create an intelligence that would result in the greatest benefits to the body politic; and that such things as smoke-nuisances—over-crowding nuisances—and many other foul and loathsome nuisances—would not be tolerated, no not for a day. At present our labouring classes, more particularly in country districts, do their work mechanically; with little more intelligence than is shown by the dumb animals whose services they employ. Their school education enabled them to read but very imperfectly, and, soon after their life of toil began, the little technical learning they had acquired became obsolete through want of practice, and so they settled down into that sad and most melancholy position in which nothing interests them which does not appeal to their senses. We need not wonder at the alarming prevalence of vice among our rural population. The lessons we are now treating of would, to a certain extent, serve to counteract the tendency which uneducated natures have to gravitate to the earthly and sensual. By opening up to them some of the wonders which meet us in the most common objects, by training them to reflect on the principles involved in the most simple operations, and by guiding them to make, from a knowledge of principles, improvements in the mode of conducting these operations, we supply them with the means whereby their attention and their curiosity may be kept ever on the alert, and their minds exercised upon what is both useful and profitable.

Oral Lessons. Preparation.

207. To conduct these lessons aright, the master must make himself well acquainted with each subject in all its bearings. The ability to talk to children upon a great variety of subjects does not necessarily imply that the master is capable of communicating real information, or of training the minds of his scholars. Something more is necessary than merely the power of speaking. The master must have ideas to communicate, and, in order to this, he must make a point of familiarizing himself most thoroughly with the subject. It is, no doubt, true that a person, whose stock of knowledge is large, may not on that account be the one who is best adapted to teach. But, if we were compelled to make our choice between the man of full mind and exact knowledge, but who may be somewhat defective in the art of communication, and the man of shallow views and vague con-

ceptions regarding a multitude of things, but who may be apt to teach, we would have little hesitation in choosing the former. Where there is a full mind, there will constantly be streaming forth from it suggestions, and hints and thoughts, which will have far more effect in kindling the spark of intellectual life in children than the common-place verbiage of him who has a mere smattering of science. The first essential requisite, accordingly, in conducting these lessons, is that the master be at home in regard to each particular subject. Mr Mosley remarks very justly and pertinently on this point—"That which lies very generally at the root of the failure of such lessons, and makes of what would, under other circumstances, be the most successful expedient and the highest resource of education, in too many cases an impediment to it—is an inadequate knowledge on the part of the teacher of that which he is teaching. He may know many things, and be generally a well-informed man, but if he fails in his lesson, it is commonly because he does not know the particular subject of that lesson. If his knowledge of it had covered a larger surface, he would have selected matter better adapted to the instruction of the children. If he had comprehended it more fully, he would have made it plainer to them. If he had been more familiar with it, he would have spoken more to the point. Wanting this knowledge of the subject, the time allotted to his lesson is filled up with words foreign to the matter in hand, as though it were a time set apart to be covered with a certain amount of talk, and as though a teacher must be assumed, as a matter of course, to be teaching so long as he is talking." Mere surface knowledge will not suffice. Where the knowledge extends no deeper than the surface, the teacher will to a certainty get into the habit of repeating, and of causing the children to repeat, words to which no definite meaning is attached. The knowledge must be deep and searching. The teacher must know the subject in its own nature and in its relations to other things. And, not only must the teacher have thus a thorough knowledge of the subject, but he must also possess skill and judgment to select those materials which are logically connected with the main subject and to reject those which are connected in appearance and not in reality. All extraneous matter must be cast aside. Each lesson should have some one definite object in view, and, while many things may be brought out incidentally in the course of it, they must be of such a nature as to bear upon the central idea of the whole. All the lines of each lesson must converge to one focus, and the lesson is not complete until they have all met, and until each is seen to have had a certain definite share in producing the final result. The skilful teacher will be known as much by what he rejects as by what he admits. We need only further add that, while each lesson is thus complete in itself, it is not necessary that the lessons follow any due order. One day the lesson may be upon some part of pneumatics, the next day on hydrostatics, and so on. But while this is the case, the teacher should carefully keep a memorandum of the lessons given, and of the points brought out, that he may thus know the exact point at which to begin any new lesson. Unless some such memorandum be kept, there will be little likelihood of the successive lessons fitting into each other, and progress will be uncertain and unsatisfactory. To enable the teacher to ascertain where, in any given lesson, he ought to begin, he should preserve carefully the notes and heads of the lessons which he prepares for his own use previous to coming to the class.

Oral lessons. Arrangement.

208. Having thus selected the materials for his lesson, the teacher's next duty is to arrange them in the order in which he wishes to present them to his scholars. There is no stereotyped method of arrangement; nor can any models be presented which the teacher can, in all cases, implicitly follow. He must have the subject in all its bearings clearly mapped out in his own mind; and must determine on treating it in some given order; but the method of treatment will vary with the varying subjects. To adopt a plan which must be rigidly adhered to throughout, will be productive of as much harm as good. Many suggestions will be made by the pupils, as the lesson proceeds, and it is essential to success that the teacher be able to catch up these suggestions, and work them into the lesson naturally and without effort.. The chief thing to be attended to is that the teacher have some definite end in view in giving the lesson; for when this is the case, he can intuitively turn to advantage every hint which occurs in the course of it. Where he adheres too rigidly to some one mode of arrangement, he may

be able to see straight before him, but will miss many of the beauties which adorn the bye-paths. If, on the other hand, he has no definite end in view, he will be apt to linger altogether upon the various paths which cross the main road, and will thus never arrive at his destination. In all lessons he must commence with what the children know. Where he has to lay a foundation for the lesson, he ought to commence with that which possesses most interest, and makes the deepest impression, and thence proceed to what is less interesting, but, it may be, equally valuable. In giving lessons upon animals, the teacher may commence with the structure, and thence infer the habits and uses; or he may commence with the habits and uses, and thence infer the structure. As the structure of such domestic animals as the cow, the horse, &c., is well known to children, we would commence at this point in lessons on these animals. In lessons, however, on animals, of the structure and habits of which the children were equally ignorant, we would prefer beginning with the latter, inasmuch as we could render such instruction very interesting by the introduction of anecdotes, &c. Having thus laid the foundation, the pupils would follow with interest that part of the lesson which bore on the structure. In lessons on science and common things, the analytic or synthetic methods may be adopted, according as the teacher finds the one or the other more suitable. Thus, in a lesson on "Smoke," we might commence with the smoke as it is seen issuing from the chimney, and trace its history backwards until we reached its cause. In a lesson on the "Winds," on the other hand, we might commence with the causes, and follow these out to their effects. In many subjects, especially those involving important discoveries and inventions, we might adopt what has been termed the Genetic method—that is, carry back the pupils to the very first steps of the discovery or the invention, and lead them gradually onwards to the present time. These hints, combined with the specimens we shall give, may be of some service to the young teacher in the matter of arrangements.

Oral Lessons. Notes.

209. To assist the memory, and to make sure of due preparation, the teacher ought to commit to writing the leading points in each lesson. These

"Notes of Lessons," as they are termed, are liable to be much abused; and we must be cautious in our recommendation of them. Sometimes the teacher writes out a series of questions and answers, and comes before his class in the expectation that the answers given by the pupils will correspond to those he has written. This seldom, if ever, happens; and accordingly the master, not receiving the answer he looked for, is thrown off his guard and is apt to become confused. Others again write out the substance of the whole lesson, which is of service in so far as it gives a mastery of the subject which nothing but writing can bestow. This plan, in the case of every lesson, entails an immense amount of labour, and, where the master has many duties to attend to, cannot be well adopted. We would advise the teacher first to determine the leading points which he desires to bring before his pupils, and to write these down as the main stays of the lesson. He should next proceed to take up each part in detail—to reflect upon the method he would adopt in illustrating it and making it clear to his pupils, and thereafter commit to writing the leading thoughts under each division. He would thus have an abstract of the lesson in the order in which it was thought out, and a glance at the abstract would bring the whole vividly before him. For convenience in reference, he should next arrange the notes in such a way that in the margin he would have the leading heads of the lesson, and in the remainder of the page those hints, illustrations and suggestions, which presented themselves to his mind in the course of preparation. Should he desire to write out the notes in full, this could be easily done. In the actual business of teaching the teacher should trust to his notes as little as possible. The heads of the lesson should be amply sufficient to guide him to the whole. The best notes are a full and thorough understanding of the subject, without which, indeed, all the notes in the world are but so much waste paper.

Oral Lessons. Mode of Conducting.

210. In conducting these oral lessons, it must be borne in mind that both master and scholars should bear their respective shares of the work. Any approach to the style of the pure lecture is to be deprecated, inasmuch as it encourages idleness in the pupils, and tends to render the master contented

with giving information, without taking any precaution to ascertain if the information has been received. The master's part in the work is to have the particular subject in hand thoroughly got up, to be well acquainted with it in all its bearings and connections, and to have the various parts of it arranged in logical order, so that, when put together, they may form a connected whole. When he has all this ready, he introduces the subject to the notice of his pupils, and by means of questions, ellipses, suggestions and illustrations, he aids them to reason out consequences from the premises which he supplies. Oral instruction thus assumes the form of a conversation, in which the master acts the part of guide, while the minds of the pupils are constantly employed in making what to them amounts almost to new discoveries. This must never be lost sight of, because the tendency to lecture instead of train the scholars is naturally strong. In school, the lecture is comparatively useless. In its own place, and among those whose minds are sufficiently developed to follow a long train of reasoning, it may be turned to high account; but with pupils of the age ordinarily found in our elementary schools, the ability to listen to or comprehend a lengthened discourse has not been acquired. The master, accordingly, must supply his pupils simply with the facts on which he intends his reasoning to be based, and must lead them to draw the inferences from these facts. For this purpose he must make large use of analogy and illustration. Whenever a term is employed with which the pupils are not familiar, it must be clearly explained, and, in the case of illustrations, he must always employ a known thing to illustrate an unknown. Unless this be attended to, no real progress can be made. The illustration must, in all cases, be from a familiar subject to one which is not so familiar. Thus, to illustrate the fact that air exerts a pressure, the case of the boy's sucker may be employed. This is a thing with which children are generally well acquainted, and the introduction of such an illustration will give the lesson a vividness and a naturalness, which it might not otherwise possess. Analogies, in like manner, should be real and not apparent. Thus, in conducting a lesson on the circulation of the blood, recourse may be had for illustration to the mode by which a town is supplied with water. We have, in both cases, the great central reservoir, constantly sending off a fresh supply of the precious fluid; and in both we have the means of conveying away the fluid when it has served its purpose. The teacher should constantly endeavour to set before his pupils a distinct mental picture of the subject of which he treats; and, for this purpose, should press into his service every possible aid. Illustrations, analogies, pictures, drawings on the black-board, &c., should be all employed to render the lesson graphic and interesting; for, unless it be made interesting and life-like, it will assuredly be a failure. While, therefore, in conducting any lesson, the teacher must attend to his manner, must modulate aright the tones of his voice, and must use appropriate gestures, he must not forget that all these things are but means to an end; and that, while in these respects the lesson may be faultless, it may still fail in making any impression on the scholars, simply because it was not interesting to them.*

Oral Lessons.
Tests of success.

211. The remark with which we concluded last paragraph furnishes one of the tests which the teacher should employ in judging of the success with which he has conducted any lesson. In ordinary circumstances the teacher has nothing to guide him in this respect but the effect which the lesson is seen to produce. Except on the occasions of the Presbyterial examination, or the visit of the Inspector, he is left alone to pursue his arduous toil. It is, perhaps, better that it should be so; for few members of our school committees know much of the actual business of teaching, and their interference would, in all probability, produce more evil than good. But the very fact of his isolation renders it incumbent on the conscientious teacher to adopt tests, whereby he may judge of the practical success of his teaching. In oral lessons, the life and interest displayed by the pupils will generally be a sure index to the ability and skill, or the reverse, with which the master conducts the lesson. Whenever, accordingly, he finds the pupils listless, dull, and restless, he may rest assured that he has failed to secure their interest, which is the first requisite in all teaching. After every oral lesson he should ask himself, not what stores of information have I

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* For a full discussion on the points touched on in this paragraph, the reader is referred to "Stow's Training System," published by Longman & Co.

poured out since the lesson began, but how much of that information have the children received? Let him adopt it as a maxim that a lesson has never been thoroughly given until it has been received. In addition to the test of which we have spoken, the master should devote a few minutes at the close of each lesson to the questioning of individuals on the leading points brought out; occasionally, also, the pupils may be required to write out the substance of the lesson, an exercise which will at once show how much of it has been received, and to what extent it has been understood.

Oral Lessons. First Stage.

212. With young children, oral instruction may be most usefully employed in conducting what are called "object lessons," and in imparting religious knowledge. Of the latter we shall have occasion to speak immediately, and in the meantime we shall confine our attention to the object lesson. It is evident that, if young children are to receive any instruction at all, it must be given orally. For a very considerable time after entering school, they are unable to employ the art of reading in such a way as to derive much benefit from what they read. If their minds, accordingly, are to be exercised at all, if their young faculties are to be trained and developed, something more must be done than merely teach them the arbitrary signs of sounds. To keep a poor child for some months, or, it may be, years, poring over the A, B, C, and its combinations, is the sure and certain way to make him a dunce of the first water. In fact, as was shown when treating of the alphabet, it would appear eminently natural to delay introducing the child to the acquisition of written signs until he has been some time in school. The method which nature suggests, we remarked, is to follow out the line of education which the child has instinctively pursued before entering school. He has been exercising his perceptive faculties on the various objects which surround him, he has been examining their properties and qualities, and acquiring a marvellously large stock of ideas, and of language in which to give expression to them. By means of oral lessons the teacher can take him up at the exact point at which he has arrived at the time when his school life begins, and can carry him gradually forward from one degree of knowledge to another. At first, accordingly, the attention of the child

should be directed, in such lessons, to those properties of the object which he can discover by his senses. For this purpose the object must not only be described to him in words, but he must also see it, handle it, smell it, taste it, or hear it, as the case may be. Every one has observed how natural it is for children to touch those objects which interest them. So strong is this desire, that in galleries of art, in museums and such-like places, it is found necessary to caution visitors against touching any of the articles. This tendency is the exhibition of nature's method of communicating information to the young or the unlearned. The teacher should fall in with this instinct of children, and allow them to exercise their senses upon the objects which he selects as the subjects of his early lessons. In this way they will acquire correct conceptions of them. Thus, for example, if the lesson be upon *a shilling*, the children should be permitted to see it, to observe its colour and form; to handle it, that they may acquire some notion of its weight; to scratch it, whereby its hardness will be tested, and so on. In like manner, in a lesson upon glass, it will not be sufficient with young pupils merely to exhibit a piece of glass. They must be allowed to handle it, to look through it, to feel its smoothness, &c. Such simple exercises will not seem useless to any man who considers how much children are dependent upon their senses for their first impressions of natural objects.

Oral Lessons. First Stage—continued.

213. After a time, and when lessons of the kind described in last paragraph have given the master a basis on which to work, he should select, as subjects of lesson, objects which do not come within the sphere of the personal observation of the children. There are many objects in the world of nature which the children can never personally examine, but which ought not on that account to be excluded from their notice. Personal examination is a mighty help to clearness of conception, but even without this personal examination, children may be trained to form very correct notions of many things of which they may never be able to take any direct sensible cognizance. The actual presence of an object in school is not necessarily of the essence of an oral lesson upon that subject. Thus, the children may never have had the opportunity of seeing a lion,

tiger, or elephant; and the master will find it rather difficult to obtain actual specimens of these animals, whether alive or dead, to take with him to school. What then? Is he to give no lesson upon such animals? Nay, verily; he may, by the use of proper methods, convey to the pupils a very accurate and, on the whole, distinct conception of the shape, appearance, and habits of these creatures. By means of a good drawing he can convey to the mind the general idea of the appearance of the animals, and, by comparing the unknown animal with one that is known, he may give distinctness to the general conception. Thus, the tiger resembles the cat, but is much larger. It is as high as some known animal—or as this (pointing to some part of the wall), it is longer than ——, about as long as ——, &c. Anecdotes, illustrative of his character and strength, will still further serve to give distinctness to their conceptions, and, although the children might not be able, from the description thus given, to draw an exact likeness of the tiger (supposing them capable of drawing), they would still have some correct ideas of the animal, and the name would thus be associated with a distinct mental picture. To confine these oral lessons to familiar objects, would be to limit most unnecessarily and prejudicially their sphere of usefulness.

Oral Lessons. Acquisition of Language.

214. One important end served by these lessons is that, by means of them, the child is acquiring a command of words, which will be of essential service in his future career. Even before entering school, the child has made considerable progress in the acquisition of words, many of which may not be over pure, although remarkably expressive. In acquiring these words, the child has almost invariably proceeded, unknown to himself, on the principle of obtaining first a knowledge of the thing, and then, as necessity arose for it, of the name. This furnishes to the teacher the true method whereby he ought to teach language in connection with these lessons. If the children have an expression of their own for the idea, it ought to be accepted; but, if the term is local or provincial, this ought to be pointed out, and the correct word given. If, on the other hand, the children require to be taught a new term, this should not be done until the idea, of which the term is a sign, has been

clearly and thoroughly pictured out.* This simple principle, in practice so often lost sight of, is so consistent with the soundest philosophy, that one is at a loss to conceive how any objection could be taken to it; and yet there are men who characterize it as a piece of humbug. The opposite method—that of giving first (and in too many instances *only*) the sign, is opposed to the very first principles of true education, and, if carried out, can only result in giving the semblance of knowledge without its reality. In all cases let the teacher present first to his pupils a clear picture of the idea, and its name will then acquire a meaning which it would not otherwise have, and, when used, will call up a distinct conception in the mind. This linguistic aspect of these oral lessons is one, in our estimation, of great importance, which ought never to be lost sight of. It has been admirably remarked, "What we have in the first place to do with, as representative of reality, is spoken language. Now, it may be asked, to what is it owing that the same person, in humble life, whose provincial tongue is pregnant with meaning and full of vivacity, when he tries to speak correctly, which he may in some measure be able to do, expresses himself in the most formal and insipid manner? We think it the chief reason, as language possesses little or no intrinsic interest, deriving its suggestiveness from objects connected with it in the mind, that the rich provincial dialect has been associated in countless repetitions with objects of living and perceived interest; whereas the correct mode of speech is chiefly remembered as having been met with in books, and it is therefore unaccompanied with fancy or lively conception. . . In order to be clearly understood, language must be easily spoken. The mere reading of school lessons will not fully accomplish either. The only successful course will be to associate words of pure English with felt and living realities." †

Notes of Lessons.
First Stage.

215. EXAMPLE I.—THE PEAR.

Objects in View.

1. To cultivate the perceptive powers.
2. To give the correct use of words.

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* This term, first introduced by Mr Stow, has been much objected to, even by many who pretend to admit the necessity of the operation which it describes. These objectors have, however, failed in suggesting a better word. To ourselves the term seems remarkably expressive.

† "Prize Essay on Education,"—Rev. D. Smith, p. 8.

Sense of Sight. Its form and shape—somewhat *round*—not like a *penny* or a *ring*, round *every way*, like an *egg*—compare the two—hence we call it *oval*, at one end *narrow*, but becomes *broader* towards the *other*—covered with a *skin* or a *rind*. What do I hold it by? The *stem*. Observe how it is formed about the *stem*, like a *bottle*. Show this carefully. Is the *stem* fixed to the end? No, it goes through and through it. Show its opposite extremity. Cut it up, and what do you see the stem doing?—hence it grows round the *stem*.

Sense of Touch. How does it feel—*smooth* and *dry;* but on cutting it, how does it feel—*smooth* and *juicy*, &c.

Sense of Taste. It tastes *sweet*, it has a *pleasant flavour*.

Conception. All the facts brought out, up to this point, are the result of the personal observation and examination of the children. The teacher, may, however, examine them upon their own previous observations, and thus cause them to recall former impressions. Thus—Where did it grow?—*on a tree*. What kind of tree—a *pear tree*. Where do you find such trees growing—in *the garden*. Its appearance, the blossoms, &c., may all be noticed.

On cutting it up, what do you observe inside? The seed. At this point the examination may be made to educe and evolve the reasoning powers. Thus—is the seed on the *outside?*—no!—where then?—in the *heart*. Why not on the outside?—if no answer is given, ask what is the use of the seed. What do trees grow from? *The seed*. Show that if the seed were exposed, it might *perish*, and thus it requires to be covered, or protected, just as we cover or protect anything we count valuable; and so God takes care of the *pear tree*. The preceding lesson might easily be formed, with very young children, into at least three. The only objects required would be a pear, a bottle, and a knife. There might also be an egg.

EXAMPLE II.—THE COW.

Introduce the subject in a simple, natural way—Ask what the children take along with their porridge—*milk*. Whence do we obtain the milk—*from the cow.* Where will the cow generally be seen—*in the fields.* What doing—*eating grass.* What does the cow generally live upon? Notice the different *colours* of the animal; and see that they know what each colour is like—some are *white*, some *black*, some *spotted*, and so on. What has the cow, of which this is a picture, got upon her head? *horns.* Have all cows horns? Of what use are the *horns* to the cow? How does the dog defend himself? the horse? the cat? &c. What is the *size* of the cow? Point out some object in the room about the same height, the same length. What do you call the young of the cow—*a calf.* You have said that we obtain milk from the cow. Is the cow of any other use? When the cow is killed, what do we do with her flesh? *eat it.* What do you call the cow's flesh when she is killed? *beef.* Where do you buy cows' flesh or—*beef? In the flesher's*, or in the *butcher's.* Is the skin of any use? What do you wear on your feet to keep them warm? *shoes.* Who makes the shoes? *the shoemaker.* What does he make them of? *leather.* Where does he get the leather? What is it made of? Notice in the same way the uses to which the horns, the hair, the milk, &c., are put. Such a lesson as the foregoing exercises simply the observation of the children, and gives them correct terms in which to express their ideas.

EXAMPLE III.—A FIRE.

Where do you find fires generally placed? *in the grate.* (In a country district, in which there may be few grates, a different answer would be given.) What is the fire made of? of *coals*, of *sticks*, or *peats*, as the case may be. Did you ever see any one putting on a fire? What did they do first? Were the coals exactly at the bottom? What was placed below them? Why were the sticks placed below? Were the sticks placed flat on the grate? How were they placed? *slanting.* Why? After the sticks were laid in, what was next done? Were the coals thrown in or laid in? What would have happened to the sticks if the coals had been thrown in? What kind of coals were placed first upon the sticks? Why small pieces, and not large? Where was the fire applied? What did the sticks then begin to do? *to burn.*

And what did this do to the coals? *It kindled them.* What did you see rising from the coals? *Smoke.* And what became of the smoke? *It went up the chimney.* What then is the use of a chimney? *To carry away the smoke.* If there were no chimney, where would the smoke go? *It would fill the room.* And how would you feel when the smoke filled the room? *Sore, uncomfortable, uneasy, unpleasant.* It would not be—*nice*, or—*pleasant*, to sit in a room filled—*with smoke.* Is the fire of any use? *It warms us.* Yes, it warms you, and makes the room—*warm.* What would the fire do if you went too near it? *It would burn us.* Little children should never meddle with—*the fire;* they should always keep away—*from it.* Various other uses might be pointed out, and other simple lessons drawn. At a somewhat more advanced stage, the most economical way of making or of kindling a fire might be pointed out, and thus even the young children might be taught the science of common things.

EXAMPLE IV.—THE CAMEL.*

Exhibit a picture of the animal, and then ask them such questions as the following:—What animal do we employ in drawing carts, carriages and other machines? *The horse—the ass.* You have all seen a horse; what has he got on his feet? *Shoes.* What are they made of? *Of iron.* Why does the horse require shoes? What might happen to your feet, if you went bare-footed among stones and such-like things? I saw a boy, when I was coming to school, running very fast along the road, and he had no shoes on. He struck his foot against a stone, and what happened, think you? *The foot was cut.* Yes, he hurt—*his foot,* and it felt—*very sore.* Now, the horse has to go on rough stony ground, and what might this do to his hoof—*it would hurt it.* *Please, Sir, I saw a horse which had lost his shoe, and he was lame.* Quite so, the horse would soon become lame if he had to work without—*shoes.* Now, did you ever see a camel in this country? Do any of you remember where the camel lives? Yes, in—*hot, sandy countries.* Do you think will the sand be as hard as our roads, or streets? No; it will be—*soft and yielding.* Do you think, then, that the camel will have shoes on his feet?

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* See this Lesson given in full, "Training System," p. 405.

Whether would you walk more easily through soft sand, with your shoes off or on? *With our shoes off.* Why? In this way, by noticing the habits of the animal, and by familiar illustrations, the children will be prepared to expect a difference between the camel's foot and that of the horse. In a similar way, by describing to them the long journeys which he is obliged to take through deserts, in which there is no water, they are prepared to appreciate the full value of the remarkable provision whereby this animal deserves the appropriate name of "the ship of the desert." As already remarked, instead of commencing with the habits and uses, the teacher may begin with the structure, and thence proceed to infer the uses. In all these lessons the teacher should never fail to call the attention of the children to the goodness of God in accommodating each animal to the circumstances of its life. We shall divide the following example into two parts, the first being suitable for young children, and the second for those who are more advanced.

EXAMPLE V.—THE ELEPHANT.

FIRST STAGE.

Introduction. Who have seen one? where? are they to be found in our fields, like the cow? no. Where then? in Asia and Africa.

Form and shape. Exhibit a picture of one—note the form—the body very clumsy—rounded, and large—neck very short, with large head—tusks—trunk—eyes small—ears long—feet short and thick.

Size. Exhibit picture of comparative sizes of animals, show its position among other creatures—then by comparison give an idea of his actual size—compared with the horse—is he larger or smaller? Give average absolute height—about 12 or 15 feet—show this height by reference to the height of ceiling—give some idea of his actual bulk by showing what part of the room he would occupy.

Uses. Give anecdotes to show his disposition—his uses to man—the mode of his capture, and so on.

By means of illustrations, comparisons, and contrasts, animals which the children may never have seen can thus be brought somewhat vividly before them. Assuming the foregoing facts to be known, we proceed, in the next stage, to reason, compare, and deduce conclusions from what has been observed.

SECOND STAGE.

Relation between body and legs.

Show if there is any connection—use of legs—a bridge for foot passengers, and one for a heavy railway train, would require what kind of pillars? Why the difference? Compare also the support of a heavy building and a light one—the legs of a child and a man. The legs must be made to support the body, their size and strength will depend what on? Now notice the remarkable fact that the legs of the elephant are vertical—like a pillar—each bone resting vertically on the one beneath it—the strongest form that could be devised. Note God's wisdom and goodness.

Relation between skin and eyes, and mode of life.

Either give the facts as to the skin and eyes, by showing how the first is hard and wrinkled, and the latter small and sunk, and from these facts deduce the mode of life; or, which in this case might be better, give his mode of life—living in the thick jungles of tropical forests, requiring to move among the tangled masses of undergrowth, with his huge unwieldy body, and then deduce what kind of skin and eyes would have been most suitable—a soft, easily pierced, or a hard, almost impenetrable skin—large protruding eyes, or small sunken ones. Note again the wisdom of God.

Relation between head and neck.

Note the head with tusks of great weight, and show how a long, tapering neck would have suited—and then observe the remarkable compensation supplied in the trunk, and the exquisite construction of this instrument so as to suit the creature's wants.

List of Subjects suitable for Oral Lessons.

216. We subjoin a brief list of lessons suitable for the first stage of instruction. They are arranged in no given order, and are intended to indicate to the young teacher the almost inexhaustible supply of subjects of lessons. The great majority are selected from the list of those given in the Initiatory Department of the Practising Schools of the Glasgow Free Church Training College.

Monkey,
Seal,
Bear,
Lion,
Dog,
Hare,
Mouse,
Camel,
Whale,
Owl,
Starling,
Turkey,
Goldfinch,
Partridge,
Herring,
Spider,
Grate,
Door,
Mole,
Tiger,
Ferret,
Fox,
Beaver,
Gold,
Silver,
Hair,
Shilling,
Sugar,
Slates,
Rose,
Gooseberry,
Cabbage,
Barrow,
Window,
Table,
Bell,
Chimney,
Chair,
Clock,
Cherry,
Apple,
Lobster,
Butterfly,
Frog,
Elephant,
Ass,
Sheep,
Hawk,
Pigeon,
Sparrow,
Salmon,
Oyster,
Pear,
Lead,
Tin,
Thimble,
Pin,
Honey,
Linnet,
Lark,
Hen,
Swallow,
Vulture,
Deer,
Hog,
Rabbit,
Squirrel,
Badger,
Leopard,
Bat,
Hedgehog,
Cat,
Weasel,
Wolf,
Carrot,
Carriage,
Stool,
Book,
Paper,
Glass,
Leather,
Grass,
Leaves,
Copper,
Iron,
Scissors,
Shoes,
Rat,
Sloth,
Horse,
Reindeer,
Eagle,
Thrush,
Duck,
Cuckoo,
Crow,
Worm,
Moth,
Crab,
Strawberry,
Peas,
Watch,
Sofa,
Clay,
Mortar,
Milk,
Cheese,
Sponge,
Gutta Percha,
India Rubber,
Pen,
Wax,
Coals,
Stones,
Needle,
Balloon.

The various trades might also be made the subjects of lessons

—the shops in the neighbourhood, and the most common domestic operations—thus:—

The making of	Tea,	The Grocer's	Shop.
	Bread,	The Baker's	
	Butter,	The Butcher's	
	Cheese,	The Green-grocer's	
	Candles,	The Tailor's	
	Porridge,		
	Jam,	The Washing of Dishes.	
	Jelly,	Scouring the Floor.	

As examples of lessons of a miscellaneous character, we may subjoin the following:—

Cleanliness and neatness of Person,
Advantages of Punctuality,
Covering of Birds,
Harrowing, Ploughing, &c.,
The principle of Weaving,
Yarn and Thread.

Oral Lessons.
Second Stage.

217. The elementary lessons, briefly described in the last paragraphs, train the children to observe the properties and qualities of objects, and supply them with correct terms for the expression of their ideas. A subsequent series of lessons should have in view the tracing of the relations which subsist among the various parts of an object, or between different objects. This calls for a higher exercise of mind than the foregoing class of lessons, and may be made most valuable as a means of mental discipline, besides communicating a large amount of useful and valuable information. Thus, in an elementary lesson upon the elephant, it might be sufficient to convey to the children a very general idea of his size, appearance, and parts. In this second stage, however, the relation between the various parts of the animal should be pointed out, and attention called to the connection which subsists between his structure and his habits. The animal has got a very large and heavy body; hence we might infer something regarding his legs. They would require to be strong. The children

may be told that they are almost perpendicular, like pillars supporting a heavy roof. He has also a heavy head, the weight of which is increased by the tusks. Suppose he had a long tapering neck like the camelopard, what might the consequences be? What kind of neck has he? But he obtains part of his food on the ground. His body being large and his neck very short, how can he accomplish this? Such questions prepare the mind for seeing a beauty and a wisdom in the compensation supplied in the shape of a trunk. We shall give several specimens of such lessons when we come to treat of subjects of oral lessons.

Notes of Lessons. Second Stage.

218. We have already given one specimen of notes suitable for the second stage under the head "Elephant." We may also give the following:—

EXAMPLE I.—WINNOWING OF CORN.

Why necessary.

To protect the grain when growing it has a covering—chaff. As the seed of the pea is contained in a pod, and that of the cherry in a pulpy substance, so grain has a covering for its protection. This covering—this chaff—becomes mixed with the grain when it is thrashed, and requires to be separated from it before the grain is fit for use.

Object of winnowing.

The chaff must be separated from the grain. We have a heap of grain and chaff combined. What we require is the grain, not the chaff. What must we therefore do? We must obtain some means of getting rid of the chaff. The chaff is light, the grain is comparatively heavy. The chaff is very easily blown away. When you pull some stalks of growing corn from the field, you rub them in your hand, and then, changing the particles from one hand to the other, you blow them. Why do you do so? By blowing you drive away the chaff, and leave the grain. The chaff can thus be separated from the grain by wind. Would such a plan as this suit if there was a large heap? No, it would be too

Grain and chaff.

Separated by wind.

tedious—would take too much time; we must therefore devise some other way.

Modes of winnowing.
a. Natural.

Suppose we have a barn with two doors opposite each other—a strong wind is blowing, which causes a current of air to pass through the barn—if we now throw up the corn, what will the current do to the chaff? It will blow it away, and the grain will fall. This plan is adopted, and was once very common; only, instead of throwing up the corn, it was put through a sieve or riddle. (Show how.)

Objections to this mode.

To winnow in this way, we require to have two doors opposite each other—both open. We require also wind, but this we have not always; and even when we have wind, it might happen to be raining, and the rain would be blown in along with the wind; hence this plan is not very convenient.

b. Artificial.

If I move this book rapidly backwards and forwards before your face, what do you feel? Wind. What causes it? (Show by this and other simple illustrations, that we can produce currents of wind artificially, and these currents may be as strong as we choose.) It is on this principle that the fanners are constructed. There is a wheel, something like the paddle-wheel of a steam-boat. This wheel is turned rapidly round. Its revolution produces a strong current of wind, which is made to play upon the corn, and thus the chaff is separated from the grain.

The fanners.

Construction.

Winnowing defined.

Winnowing is separating the chaff from the grain; and is commonly effected by means of wind artificially produced by a machine called the fanners.

EXAMPLE II.—THE SPIDER'S WEB.

Food of spider.

The spider lives on flies and small insects. How do we catch flies? We might do it by the hand. The swallow catches them by its mouth, as it darts swiftly through the air. The spider

How obtained.

By means of its web.

has no hands, nor has it the rapidity of the swallow. How then does it obtain its food? If we wish to catch mice, what do we do? We set a trap. So the spider, *taught by instinct*, sets a trap to catch the flies on which it lives.

This trap is its web. It cunningly weaves a web with which to entrap the unwary flies, and, having entrapped them, it then feeds on them.

Web, where formed.

The house spider generally forms its web in the corners of a room or window. Why in the corners? Because it is more convenient to fix the two ends of the main threads on the corners; and on the window, because flies are more numerous there than on any other part of the house. The garden spider, for a like reason, generally forms his web among the bushes, in order to have points on which to hang it.

Of what formed.

When we want to make a web we require threads. How does the spider obtain threads? Does it buy them, as we do, from a shop? No. The spider has in its body a gluey substance, from which it forms the web. "Nature has supplied it with a large quantity of glutinous matter within its body, and with five papillæ or teats, for spinning it into thread."

How formed.

"When a house or common spider is about to form a web it selects some commodious and secure spot, where insects appear to be in sufficient abundance. It then distils a small drop of its glutinous liquor, which is exceedingly tenacious; and, creeping up the wall, and joining its threads as it proceeds, darts itself, in a very surprising manner, to the opposite station, where the other end of the web is to be fastened. The first thread thus spun, the spider runs on it to and fro, assiduously employed in doubling and strengthening it, as on its force depends the strength of the whole. The scaffolding being thus complete, the spider draws a number of threads parallel to the first, and then crosses them with others; the adhesive substance of which they are formed serving to bind them together when newly spun." When we make a web we first lay threads lengthwise, then we insert others crosswise; so the spider. Having thus made the web, it covers it over with the gluey substance, that the feet of the fly may stick to it. It then spins a small house for itself, which is connected with the web, where it lurks until an unwary fly becomes entangled in its web, when it sallies forth and instantly destroys the unhappy intruder.

Spider's citadel.

Dryden's description of the spider in her web.

> The treacherous spider, when her nets are spread,
> Deep ambushed in her silent den does lie,
> And feels, far off, the trembling of her thread,
> Whose filmy cord should bind the struggling fly.
> Then, if at last she find him fast beset,
> She issues forth, and runs along her loom;
> She joys to touch the captive in her net,
> And drags the little wretch in triumph home.

EXAMPLE III.—THE COMMON BAT.

Description of.

About the size of a mouse, and somewhat similar in appearance—has long ears, small eyes, four feet, and a covering of soft, darkish-coloured hair, tipped with red. Feet, five toed. Each of the fore feet has the inner toe loose from the others, and furnished with a hooked claw; the other four are enveloped in a thin loose membrane, extending over all the body except the head, which, when the toes are spread, form the animal's wings. Toes of hind feet have hooked claws—mouth provided with teeth.

Belongs to the class mammalia.

For a long time it was reckoned a bird; but it must be ranked among the mammalia, as it brings forth its young alive, suckles them, and has lungs like those of quadrupeds.

Its habits and mode of living.

It makes its abode in holes of trees, caves, old ruins, &c.—is seen only during fine, calm evenings of summer and early autumn. Why? Its food consists of small nocturnal insects. It cannot support itself on the wing for more than an hour at a time. Why? Owing to the delicacy of its wings. It builds no nest. Why? It cannot easily raise itself when resting on its feet. It hangs by its hooked claws to the side of its hole, and in that position suckles its young. It passes the most of its time asleep. On the approach of cold weather, becomes torpid, and remains hanging to the side of its hole.

Why it exists.

During the day many birds are clearing the air of noxious insects, but as evening comes on they retire to rest. Many noxious insects fly only during evening and night; these are preyed on by the bat.

Adaptation to its mode of life.

Most nocturnal animals are provided with large eyes. Train out why? The bat has small eyes; therefore must be adapted for finding its food in the dusk by some other means. What are these? Its sense of hearing and touching are very acute. Train out how the delicacy of these senses enables the bat to find its food. Noise made by the insects, and the vibration of the air.

Senses of hearing and touch acute.

Flies lightly.

To prevent the insects being scared by the flight of the bat, it flies very lightly, and without noise.

Can live on a small amount of food.

But the delicacy of its wings renders it unfit to fly long at a time; it must therefore be enabled to live on a small amount of food. Is it so—and how?

In winter becomes torpid.

It sleeps most of its time; and in winter and spring, when there is no food for it, it is torpid. GOD'S WISDOM AND GOODNESS.

EXAMPLE IV.—REAPING OF CORN.

Corn when ripe

When reaped—why not in summer when the corn is green? It must be allowed to ripen to render the grain of any use. No fruit or grain is of much service until it is ripe—an apple—the potato—wheat, &c. Grain is ripe in autumn. How does the farmer know when it is ripe?—by its colour and by the firmness of the grain, &c.

Is cut

When ripe he cuts it. Why not pluck it?—it would be difficult—it would cause much earth to mingle with it, which would be difficult to remove again. Sand is not very nice in bread or porridge; and the farmer keeps as much of the sand out as he can. Does he cut it with a knife, as you would a stick?—no. Why not?—it would take him too long time. What then does he use?—he uses either a hook or a scythe. Show how they are shaped, and why. If he uses a hook, does he work it as he would a scythe?—no. Show how the reaper uses the hook—catches a handful of corn in his left hand and cuts with the right. When using the scythe, does the farmer catch the corn with one of his hands?—why not?—what enables the scythe to cut through?—why does he cut it close to the ground?

By the hook or scythe.

Mode of cutting.

Effect of wind.

Effect of rain.

If wind was blowing, would the farmer cut with or against the wind? What wind most favourable? Why would not the farmer cut in a very high wind?—why not in a wet, rainy day? What effect would the rain have on the cut corn?—hence what day most suitable for harvest operations?—a dry day, with a moderate wind blowing.

When cut it is put in stooks.

Why.

When the corn is cut, does the farmer leave it lying on the ground? What does he do?—he binds it into sheaves, and puts it into stooks—the shape of the stooks. What is the object of so putting it in stooks? Bring out that when uncut, even though ripe, the stalks had sap in them, and that if they were tied up in sheaves, and built in the stack-yard, they might rot. Why? Hence the grain is left in the field until it is quite dry.

The stack-yard.

What is then done with it?—It is built into stacks—their shape—why sometimes raised from the ground, and hollow inside?

EXAMPLE V.—WHY DO WE WATER OUR STREETS IN SUMMER?

State of streets in hot weather.

In summer, if the weather is hot, what happens to our streets?—they become parched, filled with dust, and very disagreeable. The dust, moreover, is injurious to our clothes, and to goods in shops, where the doors require to be open. Show how penetrating is the dust. How may we allay it?—by sprinkling water on the streets, just as a servant sprinkles tea leaves on the carpet before beginning to sweep it. The sprinkling of water thus keeps down the dust.

It does more. On a hot summer day, when the sun is shining, how do you feel if walking along the street?—very warm. Which side of the street do you walk on?—on the side sheltered from the sun. Why?—it is cooler and more pleasant. How do the stones feel?—hot—and they radiate that heat to the atmosphere, which also becomes hot, parched, and disagreeable. Sprinkling water on the streets not only keeps down the dust, it also cools the streets.

Water cools the streets.

It does more. What becomes of the water thus sprinkled?—it evaporates—passes off in the form of vapour. What causes it so to do?—heat. Heat is the cause of evaporation; but whence does the water obtain this heat? If you place your hand on a piece of iron or brass, how does your hand feel?—cold. Why?—the iron or brass abstracts the heat from the hand—the heat passes from your hand into the iron, which is in contact with it. So here, the warm, heated air is everywhere around the water—the heat passes from it into the water, and so causes it to evaporate. But will the air, having thus parted with a portion of its heat, be warmer or colder than before?—colder. It will be cooled.

Water cools the air.

The watering of our streets not only keeps down the dust, but it also cools the streets and the air, and makes it more pleasant for people to move about.

Effects of watering our streets.

EXAMPLE VI.—THE DUCK.

The Duck is about the size of a hen—about 23 inches in length—35 in girth—and weighs

Form and shape.

about 2½ lbs. Exhibit picture of—has two legs, placed pretty far back—effect of this—too much weight in front—hence when walking how does it appear? *Clumsy.* Covered with feathers—bill—eyes, &c.

Its mode of life

Determines the kind of covering,

Aquatic—picture out the term—lives partly on water, partly on land. Feeds on insects, grubs and grain. Trace the connection that subsists between its living in water and its covering—what might the water do—make it cold—hence what? A thick downy covering—where? On those parts which are most exposed to the water, *i.e.* on breast and belly—note the wisdom in this—specific provision for a specific want.

The supply of oil.

Again what does water do to the feathers—ruffles them—now what may you observe ducks doing on a rainy day?—picking and dressing their feathers. Note the oil—compare it in this respect with a *droukit* hen—again a specific provision for a specific want.

The position of legs and kind of feet.

Compare legs with those of hen—what difference?—shorter. Why? Long legs would interfere with its motion when swimming. Compare feet with those of the hen—they are webbed—why? Show how it uses them. Bring out at this point the reason why the legs are placed far back—illustration—in driving a boat are the oars exactly in the middle—why? Again, a greater weight in front enables the animal to plunge its head more easily beneath the water.

and the bill.

Compare its bill with that of hen—what difference do you observe—the duck's is shaped like a spoon—why? Show the nature of its nostrils, which act like a sieve in separating the food from the mud—the tongue also is very broad.

Uses.

Eggs—Feathers—Flesh.

EXAMPLE VII.—THE NESTS OF BIRDS.

HEADS.—1. The use of the nest.
2. When formed.
3. What determines the situation.

4. What determines the material.
5. What determines the size.
6. Particular examples.
    - *a.* The thrush.
    - *b.* The lark.
    - *c.* The eagle.

EXAMPLE VIII.—THE MAKING OF GRAIN INTO MEAL.

HEADS.—1. Why grain requires to be ground.
2. The process.
    - *a.* The drying—its object.
    - *b.* The separation of the husk
    - *c.* The sifting.
    - *d.* The grinding.

List of Subjects suitable for second stage.

219. All the subjects given under the first stage may very appropriately be gone over in the second, somewhat in the manner indicated in the example "The Duck." The various parts of the animal—their relations to one another—the structure, and the connection between it and the habits and modes of life, may be thus exhibited more fully than was possible in the first stage; and the lessons thus made the means of communicating much useful information, and of developing the faculty of observation, and the power of deducing simple but very important inferences. In addition, however, to the list of lessons already given, we may subjoin as specimens the following :—

The eye—its position and protection.
The manufacture of salt from sea-water.
The manufacture of wool into thread.
The common pump.
The thrashing of corn.
What is smoke—how may it be consumed.
Comparison between hen and duck.
Comparison between cat and dog.
Comparison between lion and tiger.
Comparison between elephant and camelopard, &c.
Glass—of whatcomposed and how manufactured.
Paper—how and from what manufactured.

Tears—their nature and use.
What ought to be the exposure of our gardens.
How to prepare good tea.
Why does a gardener cover his flower-beds with matting in a clear, calm night?
What kind of clothing should we wear in winter?
The evil effects of tight lacing—of tight boots, &c.
The beaks of birds—why difference in?
Which is warmer—a sheet or blanket?

The preceding examples will indicate to the young teacher the wide field from which he may cull the subjects of oral lessons.

Oral Lessons. Third Stage.

220. A still higher grade of oral lessons should be given, with the view of training the reasoning powers, and of leading the children to infer consequences from premises laid down for them. "By books, the pupil can never be properly exercised in reasoning. As conclusion and premises follow one another, both of them being placed before the reader, he is under great temptation to assume both on equal authority. Hence the means must be used, in the first instance, to induce him to draw inferences which he has not thought of beforehand Some men entirely unexercised in reasoning know just as much as they are told in plain language, or as they can perceive by their senses; but all men of ordinary capacity are able to acquire the power of concluding something involved in what is sensible, and deducing inferences from the information communicated to them. We would set out, in lessons of this sort, from something which the pupil knows, or which can be made patent and palpable to his senses, and go on from simple processes to more difficult, the complex conceptions thus acquired forming the components of new reasonings."* This series of lessons might embrace various portions of physical science—such lessons as we have specified in the chapter on geography—the more common pieces of machinery—the instruments employed in philosophical pursuits, such as the barometer, thermometer, &c. It is during this stage chiefly that the application of science to the explanation of common

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* Prize "Essay on Education," Rev. D. Smith—page 23.

things should be dwelt upon. Every lesson should aim at turning the attention of the pupil to an examination of those phenomena that meet him in his daily life. In this way all these lessons become lessons on the science of common things.

Notes of Lessons. Third Stage.

221. In regard to the class of lessons suitable for the third stage we beg to refer the reader to last paragraph. The train of reasoning is considerably longer in the following specimens than in any one of those previously given.

EXAMPLE I.—THE THERMOMETER.

Meaning of word.

Means *heat-measure*, an instrument for measuring the quantity of heat in any given substance.

Various modes of determining the amount of heat.

There are various modes of determining the amount of heat, *e.g.*, *the sense of touch;* this is variable in different individuals, and in the same individual in different states of the body. What is warm to one may be cold to another, and *vice versâ;* this consequently would not suit—so of other modes.

Effects of heat constant.

Expansion furnishes a measure of heat.

The effects of heat under given circumstances are constant for all places; one of its effects is expansion. Heat expands bodies, and that uniformly in all countries, according to the amount of it. *Expansion may consequently be assumed as a measure of heat.*

Expansion of liquids most suitable.

Solids expand under heat, but not to such an extent as to be easily appreciable. Gases expand too much to be conveniently employed. Liquids expand not so much as gases, but more than solids, and more uniformly than either. *Hence the expansion of liquids is employed as a measure of heat.*

Mercury commonly employed.

Mercury expands very uniformly, and is most commonly employed; *and by observing its expansion and contraction, we have a sufficiently accurate measure of heat.*

Glass tube.

For convenience sake, the mercury is confined in a tube, containing a bulb at one extremity, and closed at the other—*tube made of glass*—why?

(Exhibit model, or draw one on black-board.) Show how the tube is formed.

How graduated. To enable us to read off the different amounts of heat in any substance at different times, the tube *has a scale fixed to it*—how formed? Two points are selected as the extremes, these points are the freezing and boiling points of water—plunge the tube into water when in the act of freezing, and mark where the mercury stands in the tube (mark it on your drawing), and you have the freezing point. Again, plunge it into water when boiling, mark where the mercury stands, and you have the boiling point. Call these two points any numbers you choose, say, 0 and 100; divide in this case the intermediate space into 100 equal parts, and *you have the scale.* These equal spaces are called degrees.

The Scale.

Centigrade. Such a Thermometer is called the *Centigrade*, why? *centum* and *gradus.*

Fahrenheit's. The one generally used in this country *is called Fahrenheit's*—why? In it the freezing point of water is marked as 32, and the boiling point as 212. The intermediate space is divided into 212–32=180 equal spaces or degrees. Show why Fahrenheit employed these numbers.

Reaumur's. Another one, *called Reaumur's*, has the two points fixed at 0 and 80 respectively.

How reduced to the same standard. It is easy to *reduce them to the same standard*, thus, the distance between the two fixed points in the Centigrade is 100, and in Fahrenheit's is 180. They are to one another, as 100 to 180, or as 5 to 9, and so with Reaumur's, &c.

EXAMPLE II.—THE BAROMETER.

Meaning of word. Is an instrument for measuring the weight or pressure of the air.

How constructed. Take a glass tube, closed at one end, open at the other, fill it with a liquid, say mercury, put your finger on the open end, reverse it, and plunge the openend in to a vessel containing mercury, taking care that no air gets into the tube. Suppose the tube to be 33 or 34 inches in length, will all the mercury in the tube sink down into the vessel? No. Why not? The pressure of the air on the surface of the mercury in the vessel supports the mercury in the tube. What height of mercury will the atmosphere in ordinary circumstances sustain? About 30 inches. In this case, therefore, we have a space of about 3 or 4 inches above the mercury in which there is no air. (Bring out this point clearly.)

Pressure of atmosphere varies.

The atmosphere does not in all circumstances exert the same pressure. Sometimes the pressure is greater—sometimes it is less. When the pressure increases, will it support more or less mercury? Whether, therefore, will the mercury rise or fall—and so when the pressure is less. Thus, the rise or fall of the mercury in the tube is an index to the pressure of the atmosphere at any given time or place. To enable us to read off the difference of pressure thus exhibited, a scale is attached to the barometer. As the mercury in this country never sinks, at the sea level, below 27, or rises above 31, it is not necessary to have more than these marked on the scale. Where the instrument, however, is employed for meteorological purposes, the scale must descend much lower.

Scale.

Connection between atmospheric pressure and weather.

Bring out the connection between atmospheric pressure and the state of the weather. When the weather is good, the pressure is greater than when the weather is bad; hence the mercury will stand higher in good than in bad weather. Before a storm the mercury sinks rapidly; hence it is used to indicate the weather; it is called a weather-glass. Show its use to the farmer, the sailor, &c.

Connection between atmospheric pressure & height.

Show, also, that as we ascend, the pressure of the atmosphere becomes less, and the mercury sinks; hence it is used as a means of determining heights.

Marks on common barometer.

Explain the terms which are marked on the common wheel barometer. Show how unsafe it is to trust to them—they often indicate the very opposite of what actually happens.

EXAMPLE III.—DEW.

Watery vapour.

The atmosphere always contains a certain amount of watery vapour. Its capacity for vapour depends on its heat. Cool the atmosphere, it will contain less—increase its heat, it will contain more vapour.

The earth a good radiator.

Radiation cools the surface of the earth.

Dew formed.

The earth, during the day, when the sun is shining, absorbs a large amount of heat. In the evening, when the sun has set, the earth radiates its heat very rapidly. This radiation soon cools its surface. The air coming in contact with this cooled surface, parts with its caloric to the earth. Its temperature is thus reduced, and, as a consequence, its capacity for watery vapour is diminished. The vapour it contains is condensed, and is deposited in the form of dew. Illustrate by bringing a cold bottle into a warm room. What happens? The moisture inside the window of a warm room, when it is cold without, &c.

Application.

If this be so, where will dew be most readily and most profusely formed? On those substances which radiate heat. Such is the fact. How can you stop the formation of dew? By stopping the radiation. Show how gardeners take advantage of this. Will there be more dew on a clear than on a cloudy night? Why on a clear night?

EXAMPLE IV.—THE LAND AND SEA BREEZE.

Introduction.

You have been by the sea-shore—you have been at the bathing. In what direction did you observe the wind blowing in the middle of the day? To the land—from the sea to the land. In the evening, when the sun had set, and when the ground began to cool, in what direction did the wind blow? From the land to the sea.

Land a better absorber of heat than water.

Bring out clearly the fact that the earth is a better absorber of heat than the sea—that the temperature of the sea remains in all places and at all times far more equable than that of the land. In bathing on a hot day, you must have felt the water cold, and the sand and rocks on the sea-shore almost insufferably hot.

Effects produced by its greater absorbing power.

When the sun has risen to some height in the heavens, the earth rapidly absorbs his heating rays, and so becomes warm. The air coming in contact with this heated surface, becomes also heated, is rarefied, and its equilibrium destroyed. How can the equilibrium be restored?—by the accession of cold currents—whence will these come? The sea does not absorb heat so rapidly as the land—its temperature remains more uniform—hence, while the air, resting on the land, is heated and rarefied, that on the sea remains *cold* in comparison—accordingly the cold air from the sea will flow in upon the land to restore the equilibrium.

Land a better radiator than water.

Effects of this.

Again, the earth not only absorbs rapidly, it also radiates its heat very quickly—it parts with it far more rapidly than the sea. Hence, when the sun has set, the earth cools rapidly—becomes colder than the neighbouring sea. The air resting on the land, partakes of this coldness; and being thus denser than the air resting on the sea, flows in upon the sea, until an equilibrium is restored.

Cause of these breezes.

The land and sea breeze is thus produced by the different absorbing and radiating powers of the land and water.

EXAMPLE V.—WHY DOES ICE FLOAT?

Heat expands bodies.

Effect of this.

Heat expands bodies and makes them specifically lighter, when, if liquids, they rise to the surface and float. The part of a substance that is lightest floats—thus the cream on milk—the dross in the process of refining, &c.

Cold contracts, and so renders bodies specifically heavier.

Cold on the other hand, as a rule, contracts bodies, and so renders them specifically heavier. Ice is produced by cold, or by the abstraction of heat; and if water continued to contract during the whole process of congelation, the ice, when formed, would be specifically heavier than the under-lying water, and would sink to the bottom. If the cold still continued, a new layer of ice would be formed on the surface, and when formed it would also sink; and so on, layer after layer would form and sink, so long as the cold was sufficient to freeze the water.

We would expect ice to sink.

What would happen if ice sunk.

Picture out the consequences of this, especially in high latitudes—the rivers and lakes would become one mass of ice, which all the heat of summer could not melt; all life would die, and those parts of the earth would become a dreary, icy solitude.

Ice floats.

Why?

But ice, when formed, does not sink—it floats on the surface of water, like cream on milk, or dross—hence it must be lighter than the under-lying water; but to make it lighter what must have taken place in the process of its formation?—it must have expanded. Here state the remarkable fact, that when water has cooled down to $39\frac{1}{2}$° F., the contracting process is suddenly arrested, and it begins to expand, and continues to expand until it forms into ice—supposed to be owing to the mode in which the crystals of ice arrange themselves.

The law of contraction is arrested.

Wisdom.

But whatever the cause of the expansion, the beneficial effects of it are evident enough, and furnish a striking proof of the wisdom and goodness of the all-wise God.

EXAMPLE VI.—APPLICATION OF THE FOREGOING LESSON.

HEADS.—1. *a.* Why do water pipes frequently burst in frost?
b. How may this be prevented?
2. Danger of allowing water in winter to get into chinks, &c., of buildings. Why?
3. Show how the principle may account for many of the convulsions of nature.

EXAMPLE VII.—LOCALITY OFTEN DETERMINES CUSTOM.

Egypt—a long valley formed by opposite ranges of mountains; the river Nile flowing between. Soil naturally dry and sandy. Climate dry and hot—rain seldom falling—its vegetation depending chiefly on the Nile overflowing its banks, thus moistening the soil, and leaving a covering of mud. Its mountains abound with caves, wherein the hyena, jackall, and many other beasts of prey, have their abodes.

Egypt, its physical features, &c.

Was early, and for a long time, the seat of a great Empire. Mention the idolatry of the people—some of the objects of their worship. Many of the native animals they embalmed and kept in their temples.

Seat of empire.

Objects of worship.

Every people pay great respect to their dead. The Egyptians did so especially. Refer to their belief in the transmigration of souls. The soil, because of its sandy nature, and owing to the dryness of the atmosphere, and prevalent winds, was unfit for the burial of the dead. Why? Wind obliterates the marks of the graves—the hyena and jackall could easily dig up the dead bodies. How the Egyptians would be horrified. Even near cities, which were planted near the Nile, the graves would be obliterated by the mud deposited by the Nile when it overflowed its banks. How would this affect the Egyptians? Set them to find out places of security for their dead. Where could they turn? On either hand mountains looked down on them, displaying caves—lay them there. They did so. The result—in a few days they could not enter them. Why? The effluvia arising from decomposition caused by the heat of the atmosphere. What then? They must dispose of their dead; and they desired to have them safe, and free from disgusting sights and smells. What then? They knew how to preserve the animals they worshipped—do so with their dead relatives—hence embalming. Train out why they laid out such expenses on embalming—their belief

Every people respect their dead.

The soil of Egypt unfit for burying in. Why? And results of.

Entombing in rocks — first results of.

Embalming—character of, determined by the Egyptians' belief.

in transmigration of souls. Thus explain the murmuring of the Israelites when Pharaoh's host was behind, the Red Sea in front, and high mountains on either side of them. "Because there were no graves in Egypt, hast thou taken us to die in the wilderness?"—*Exodus* xiv. 11.

EXAMPLE VIII.—RICE.

Conditions necessary to its growth.

Assume as known the general fact that vegetables require light, air, heat, and moisture. In all parts of the earth the first two conditions are fulfilled, and in so far as they are concerned, all plants might grow everywhere. But in addition to air and light, rice requires a certain amount of heat and moisture.

Air and light.

Heat.

It will not thrive well unless there be a summer temperature of at least 73°4 of Fahrenheit. This at once fixes its locality to a certain extent. (Mark off on the map the countries which have this temperature—*i.e.*, those lying about 40° on each side of the equator, more or less according to those circumstances which determine climate.)

Moisture.

But even within these limits it will not grow everywhere—*e.g.*, not generally in the west of Asia, in Persia, Arabia, &c. Why? Because, although there is a sufficient amount of heat, there is not sufficient moisture. A great abundance of water is necessary to its growth. This is found in the S.E. of Asia, the Indian Peninsulas, China, Japan, United States, Italy, and certain parts of Africa—hence rice will grow in these districts.

Where fulfilled.

Natural region of rice.

We have thus the habitat of rice—but even in the districts mentioned, where we have all the conditions specified, rice will grow in certain quarters better than in others. Bring out the fact that each plant has a natural locality, where it flourishes best.

Mode of culture.

Show how it requires to be covered with water—where the rivers do not naturally overflow their banks, how is this done? By irrigation. Refer to the vale of Lombardy and the Po. Picture out the scene. Show how long it remains under water—in the ground—mode of reaping, &c.

Nature of fruit. It produces a greater return in proportion to the ground under cultivation than any other grain, but this is counterbalanced by the fact that it contains a larger amount of starch and a less amount of gluten than any other grain—consequently, bulk for bulk—it is less stimulating and nutritious. It is also destitute of fatty substances, so that, like all substances consisting chiefly of starch, it is not well fitted, if used alone, to support life, although it is very advantageous and economical, when forming a portion of the food of man.

Nations who live on rice. What nations live on rice—what is, in general, their disposition? Can you trace any connection between their soft, dull, phlegmatic temperament, and the food on which they live?

How prepared for food. This part would, of course, be given to girls—our fair readers can easily supply the necessary notes.

EXAMPLE IX.—THE COTTON PLANT.

HEADS.—1. Conditions necessary to its growth.
2. Where fulfilled.
3. How grown.
4. How prepared for manufacture.
5. Its importance to Britain, and the desirableness of having a supply from our own Colonies.
6. In which of them might it be profitably cultivated.

EXAMPLE X.—OCEANIC CURRENTS.

HEADS.—1. Effects of heat on waters of the ocean.
2. Effect of earth's diurnal revolution.
3. Combined effects of these two influences.
4. Effects of interposition of masses of land, &c.
5. Trace these various effects in one known current.

List of Subjects suitable for Third Stage.

222. We have already, in the chapter on Geography, given a list of subjects suitable for oral lessons in the third stage. Similar lessons should be given on the various points of natural science. We shall specify a few as mere examples.

LESSONS ON HEAT—

Communication of heat.
Conduction of heat.
Radiation of heat.
What bodies radiate best?
Distribution of heat.
How may heat be distributed?
Absorption of heat.
What kind of clothes most suitable for summer and winter wear?
Expansion and contraction.
Thermometer.
Liquefaction.
Vaporization.
Elasticity of steam—Steam Engine.

LESSONS ON MECHANICS—

Levers—Practical examples of.
Wheel and axle.
Pulleys—Advantages of.
Inclined Plane, Wedge, Screw } Practical examples of.

LESSONS ON PNEUMATICS—

Elasticity of Air.
Pressure of Atmosphere.
Air Pump—Common Pump—Forcing Pump.
Fire Engine, &c.
Philosophy of draughts—evil effects of—prevention, &c.

LESSONS ON OPTICS—

Reflection and Refraction of light.
Description of the eye—use of spectacles, &c.
Telescope—Microscope—Magic Lantern, &c.

As examples of lessons of a miscellaneous description, we may subjoin the following :—

Ventilation—of private dwellings—public buildings, &c.
Evils of bad ventilation—dry rot—fire damp, &c.
Why is it dangerous to drink cold water when the body is much heated ?
Why is it dangerous to bathe when the body is much heated ?
The circulation of the blood.
The connection between health and a constant supply of pure air.
Where ought a bed to be placed—near the floor or at some distance from it ?

The earnest teacher can easily find subjects of lessons suitable for every stage of progress. The more common the objects are, the better, as they will thus appeal more directly to the interest of the children, and will tend to make them acquainted with the concerns of every-day life.

EXERCISES.

1. What class of subjects is most suitable for oral lessons ?
2. What do you mean by " The Science of Common Things," and to what extent ought it to be introduced into school ?
3. What do you mean by an " Object Lesson ?"
4. What class of faculties is the object lesson well fitted to cultivate ?
5. Give an account of the method by which you purpose to conduct your oral lesson.
6. What do you mean by " Notes of Lessons ? " What use ought to be made of them in teaching ?
7. Writes Notes of Lessons upon (any subject may be selected) suitable for children in an Initiatory, a Juvenile, or an Advanced school.

CHAPTER XXI.—RELIGIOUS KNOWLEDGE.

Classification. - 223. In reference to instruction in religious knowledge, the school life of children in ordinary elementary schools may be divided into three distinct stages. Without pretending to mark off the boundary lines with a precision suitable to the case of any particular school, we may safely group together those pupils whose ages range from five to seven years, from seven to nine or ten, and from ten and upwards. These groups will correspond respectively to the Initiatory, the Juvenile, and the Senior Divisions of the School, and each division should have instruction in religious knowledge adapted to itself.

Spirit in which Religious Instruction should be given.

224. Before proceeding to make a few remarks upon the instruction best suited for each stage, we may observe, and the observation holds true for all the stages, that a great deal of the good which may be expected to flow from religious lessons will depend upon the manner in which they are given. If no distinction is made between a Bible lesson and one on any ordinary subject, the pupils will come to look upon both as of equal importance. To obviate the evil consequences which must result from such a feeling, the Bible lesson, both in time and in all other concomitant circumstances, should have the precedence of all the rest. The work of each day should begin with devotional exercises, in which the Divine blessing is supplicated upon the labours both of teacher and scholars; and thereafter the minds of the pupils should be directed to the word of the Living God, as the source of true wisdom, and as the unerring rule in all the affairs of life. In conducting such lessons, the master should, by look, tone, and gesture, seek to impress upon the pupils that reverence for God's truth which they ought ever to cherish. The Bible should be read in a more subdued tone of voice than an ordinary class-book, and the excitement and emulation, which may be allowable in other lessons, should not be allowed in this. Place-taking, whatever merit it may possess in regard to other branches of education, is sadly at variance with the spirit which ought to pervade all directly religious instruction.

Application of the Bible Lesson.

225. Not only should the Bible lessons be gone about in a way which will mark them broadly off from the ordinary lessons of the school, they should, to the utmost extent possible, be reduced to practice. To secure this important end, the master must exhibit, in his own walk and conversation, a character becoming the Gospel of Christ. Children are very quick in detecting any incon-

sistency between the teaching and the practice of those who are placed over them. They are not slow to discover whether the teacher displays, in his daily walk among them, those feelings and principles which in his lessons he wishes to imprint on their hearts. If his character belie his teaching, the teaching will be well-nigh useless. A consistent Christian character will have more influence on the susceptible minds of youth, than any amount of dogmatic teaching, however orthodox it may be. The moral tone of a school is, to a large extent, determined by the character of the master. In this respect it may with truth be said that the school-master is the school. When the master exhibits in himself a pattern of what he teaches, his teaching will become a felt power for good in the school, the effect of which may be incalculable by the arithmetic of time. The master, thus acting out in his daily life the precepts of God's word, will not consider his work done when he has communicated a certain amount of religious truth—he will seek to make that truth tell upon the conduct of his pupils during their school hours, and especially during their play. To tell the child that the Bible inculcates a meek, gentle, and forgiving spirit is good in so far as it goes, but the whole has not been done until the child so feels that truth operating upon his heart and conscience as to lead him to repress the angry feeling which swells in his bosom, and to stretch out the hand of forgiveness to a companion who may have injured him. To teach a child that lying is forbidden in the word of God is highly to be commended, but the wise teacher will not stop short with the mere act of teaching, he will endeavour so to train his pupils that this truth shall become a felt and ever-present reality. It is by thus bringing the Bible lesson to bear upon the common affairs of the child's busy life, that we may expect to see these lessons bringing forth fruit. We believe that it is the absence of this kind of training in the family and in the school, that is partly the cause of that most lamentable separation between faith and practice, which is one of the distinguishing features of the Christianity of the present day. Christianity is viewed by many as a mere system of doctrines, good and useful in their place, but having little or no reference to the regulation of life and conduct. It is considered as something that may be taken on from without; an outer crust of beauty wrapped round the hollow rottenness within. It is forgotten that the grand central idea of Christianity is that of a life begun in the soul by the Spirit of God, and manifesting its existence by words and actions in harmony with its sacred principles. "The kingdom of God is within you;" and it is only when every thought has been brought into complete subjection, that Christianity has achieved its full triumph. The teacher should constantly bear this in mind; and should endeavour to form in his pupils the habit of measuring themselves by the law and the testimony; and of judging their conduct, not by the false maxims of human honour, but by the unerring test of right and wrong. We spoke in last chapter of the application of science to the common events of every-day life. The religious instruction given in school should, in like manner, be applied to the common events of the child's daily life. This "Science of Application" is as necessary in the one case as in the other. The child should be trained to the practice of what is right, and not merely told what is right. * In this way correct habits will be formed; which, in so far as they go, are of immense importance. The Holy Spirit, and He alone, can bring truth home to the heart with power and demonstration; but we must not forget that it is ours to apply the truth to the regulation of daily life. The habits of repressing anger, of respecting the feelings of others, of habitually cherishing a gentle and loving disposition, may be strengthened by the discipline of the school, and there may thus be formed the elements which the Spirit of God will employ in producing a solid Christian character. Accordingly in all Bible lessons the teacher should endeavour to apply the truth to the hearts and consciences of his children. He should endeavour so to set before them the Worthies whose lives are recorded in Scripture, that their example shall be felt to be a real thing—above all he should set continually before them the example of our blessed Lord, that they may learn in all things to imbibe his very spirit, and to attain, it may be in faint measure, to the stature

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* This constitutes one of the fundamental principles of the Training System of Mr Stow, "who," in the words of Mr Moseley, "more successfully perhaps than any other living man, has laboured to impress on the public mind the great principle that the education of the school should include—with the instruction of children—their religious and moral training and nurture."

For a full exposition of the principle, we refer the reader to the works of Mr Stow.

of perfect men in Christ Jesus. Where there is not this direct application of the truth, the religious instruction of the school will, to all intents and purposes, be a dead letter.

Caution to be observed in applying Scripture examples.

226. In thus endeavouring to form his pupils after the models of Scripture excellence, the teacher must be very careful to present to them the truth in all its aspects, and to deduce no more from a passage of Scripture than it is legitimately fitted to teach. This principle must be kept steadily in view in making use of the examples given in Scripture of the punishment of particular sins. Thus, in conducting a lesson on the sin of lying, after having pointed out its nature, and shown that a lie can be acted as well as told, the teacher may legitimately employ Scripture examples as a means of deterring from the sin. He may refer to the case of Ananias and Sapphira, as indicative of God's anger against this sin ; but he must carefully abstain from leaving the impression that a similar punishment will necessarily follow now. The example referred to should be employed to illustrate and enforce the solemn truth that "Lying lips are an abomination to the Lord ;" but should not be produced as a specimen of the ordinary mode of punishment. The child soon comes to discover that such is not the case, and hence his confidence in the word of God is shaken, and he ceases to retain that respect for it which is essential to the simple reception of its doctrines. Perhaps there is no part of religious instruction in which greater practical errors occur than that of which we are now speaking. The examples furnished by Scripture are taken as specimens of the invariable mode of procedure, and it is forgotten that they are intended to supply us simply with principles, the application of which is so plain that he who runs may read. The teacher must carefully guard against this error, and abstain from using the Bible as a bugbear to frighten the children, in order to save himself from the trouble of training them to the practice of what is right. We have heard the simple story of Elisha and the children of Bethel so told that the impression was left on the minds of the pupils that mockery would be inevitably followed by a similar mode of punishment. We cannot too strongly condemn such a style of teaching.

Caution to be observed in Treating of Spiritual Experience.

227. There are one or two other cautions which we deem it necessary to give. In dealing with those passages of Scripture which record the experiences of God's people, the teacher must never forget that he is speaking to those who, even on the supposition that they are regenerated, are still mere babes in religious knowledge. The two grand hinges of Scripture—Sin and the Saviour—the pivots on which it all turns, must be constantly kept in view, and the teaching must tend to produce the conviction that to be saved the new birth is necessary; but it would be a fatal error to suppose that, in the very nature of the case, children could enter into the feelings of such saints as David or Paul, either when they describe their wrestlings with indwelling sin, or their joy and rejoicing in the victories which grace enables them to achieve over the world, the flesh, and the devil. Hence the judicious and wise teacher should be cautious in leaving the impression that such experiences are of the essence of conversion. We believe that all Christian biography goes to show that, where conversion has taken place in early life, it is not attended with that life-and-death struggle which so often characterizes it in the case of those who are born into the kingdom at more mature years. The teacher must be able, in this as in all things else, to sympathize with his little flock, and the more thoroughly he can do so, the more likely will he be to win them over to the side of truth. We need scarcely caution the teacher against sectarian teaching. We believe that this is seldom, if ever, attempted in our schools, and that in so far at least as the teachers of Scotland are concerned, there are no obstacles on the score of religion to the immediate establishment of a national system of education.* Nor need we say much, if anything, on the danger of applying Scripture language and phrases to the affairs of every-day life. An undue familiarity with the Bible is to be deprecated, as well as too much reverence for the mere letter of it, apart from its spirit.

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* To any one practically engaged in the work of teaching, it does seem a libel on our teachers to assert that religious differences are the great obstacle to the establishment of a national system of education. The petty rivalry of religious sects may and does constitute a powerful obstacle, but, in so far as the mere teaching of religion in the school is concerned, there is nothing, as we have said, to hinder the establishment of a national system to-morrow. How sad to think that while men are squabbling about mere shadows, the youth of our country are growing up ignorant. We are sowing the wind—let us have a care that we do not reap the whirlwind.

First Stage. Subject Matter of Instruction.

228. We come now to make a few remarks upon the kind of instruction that appears to us best suited for each of the three stages into which, we have said, pupils may be divided. In the first stage, the doctrines and lessons of Scripture should be deduced mainly from its narratives.* It is a remarkable feature in Scripture, strongly illustrative of the "Manifold Wisdom of God," that its stories are of such a nature that children never tire of hearing them. We have, in this fact, the basis on which to build our early religious instruction. Scarcely one of the doctrines of Scripture but may be deduced from some one or other of those charming stories, which have been the delight of children in all ages of the church. Direct doctrinal instruction cannot be attempted with young children. Abstract definitions of doctrines are to the young unintelligible. It would be no easy matter to give children the abstract idea of the omnipresence, or the omnipotence of God, but their young imaginations may be led, by simple Bible stories, to comprehend somewhat vaguely these sublime truths. The idea of God as our Creator, our Preserver, our Redeemer, our Constant Benefactor, the Source of all our blessings, the Supplier of all our wants, the Shepherd who watches over us, the kind and loving Father who feeds, clothes, and supports us, whose love was such that he sent his Son to die for us—the idea of Sin, and its consequences, of the means of restoration provided—of holiness and good doing—may all be formed in the minds of children by the examples and illustrations supplied in Scripture. We do not require to particularize the stories—the Bible is full of them. In addition to these stories, however, much use may be made of the emblems and simple precepts of Scripture. Emblems are particularly valuable, if judiciously handled, in that they supply a never-failing source of illustration, and serve as an admirable casket to hold most precious truths. The simple precepts of Scripture are equally important, embodying, as they do, in few but deeply significant words, principles of the most extensive application. We would, accordingly, confine the early religious instruction of children mainly to

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* We may refer the reader to an admirable work on this subject by the Rev. George Lewis, entitled "The Doctrines of the Bible, developed in the Facts of the Bible." Edinburgh: Thomas Constable & Co.

these three things—the narratives or stories of the Bible, including under that term an account of the various miracles of our Lord—the emblems—and the precepts, in which Scripture is so rich ; and we would reserve any attempt at direct systematic teaching of doctrine until a much later period.

First Stage. Mode of Conducting the Lesson.

229. In conducting these early lessons, the principles already laid down in regard to oral teaching must be borne in mind. The whole of this early instruction must be given orally, for children are unable to read the Word in such a way as to derive any benefit from their reading. In dealing with a story or narrative, accordingly, the master must tell the simple facts, and by means of questions, ellipses, and illustrations, must train the children to draw simple inferences from the facts stated. In order to keep up the interest of the children, the whole incidents must be clearly and graphically pictured out—the children must see with the mind's eye the whole scene vividly pourtrayed, and a picture of it being thus before them, it will make an impression which can never be effaced. This principle of picturing out is an indispensable requisite in these early lessons. Unless it is adopted the lesson will be a failure.

First Stage. Examples of Lessons.

230. We shall subjoin a specimen of each kind of lesson of which we have spoken, with the view of illustrating the last paragraph. The young teacher must, however, bear in mind that in actually conducting a lesson many points of difficulty will occur, which cannot be presented in the following sketches.

EXAMPLE I.—SIMPLE NARRATIVE.

EXODUS II. 1–10.

Before commencing, see that the children are all seated properly and are attentive. The Bible should be exhibited, even though the narrative is not read. This will impress them with the idea that the lesson is to be a Bible one.

Now, children, I am going to tell you a pretty story about a little boy. His name was Moses. Did any of you ever hear of Moses? (Many of the children may have heard of him from the instruction received at home. The information they possess will be of great service in working out the lesson.) At the time when Moses was born, a bad king wished to kill all the little boys. And do you know how he wished them to be killed? He ordered them to be thrown into a river. There was a very large river in the land, and all the little boys were—*thrown into it.* What would happen to them? *They would be drowned.* Do you think Moses' mother would like to drown him? No. She would like to keep him. How would she feel to him? *She would love him*—just as our mothers—*love us.* Well, she hid him for a long—*time*, but one day some one saw—*him*—saw the—*child*, and she could not hide him any—*longer.* How would she feel when she could not hide him? *Sorry.* Yes, she felt very—*sorry*, and did not wish to throw him—*into the river.*

Well, do you know what she did? She made a nice little basket. What do you sleep in? *A crib, or a cradle.* She made a little—*crib*, and what do you think she would put in it—*a bed—a pillow*, and blankets. When she had thus prepared the little—*basket*, she put in the—*child*, and went down with it to the river, and placed it in the edge of the—*river.* But what would the water do? *It would come through.* Yes, but to prevent it from coming through, she put pitch on the basket, to keep out the—*water.* Picture out the scene, the weeping mother with the basket in her arms, and her little daughter by her side, her earnest look upon the child, it might be for the last time; her withdrawal from the place, slowly and sadly, looking wistfully back at the little ark with its precious cargo, leaving Miriam, who would excite no suspicions, to watch the result.

The finding of the child by the king's daughter and her servants should be gone over in a similar way, the attention of the children being directed to the care which God takes over little ones. Many incidental lessons might be brought out—the duty of little sisters to their younger brothers—the love we should cherish to our parents, who do so much for us, and especially to God, who watches over us at all times, and so on.

EXAMPLE II.—MIRACLE.

LUKE VII. 11-16.

In this lesson we assume that the children have had many oral Bible lessons, and are more or less acquainted with the stories about Jesus.

The story I am going to tell you to-day is about a poor widow and her only son. Do you know what we mean by a widow? *a woman whose husband is dead.* Well, this woman's husband was—*dead*, and she had one only—*son.* How do you think she would feel to him? *She would love him.* She was very—*fond of him*—of her only—*son.* Who works to get food and clothing for you? *Our fathers.* Your fathers work for you, but who would have wrought to support this widow? *Her son.* Well, on one occasion he took ill—he got very—*ill*—was very—*sick*, and his poor mother was very—*sorry*—for she was afraid he would—*die;* and if he died, she would be left—*alone*, with nobody to do—*anything for her*, for her husband was—*dead*, and this was her—*only son.* Well, he was very sick, and grew worse every—*day*, and what would his mother do? *She would watch him.* She sat beside his—*bed*, and never left—*him.* When you are sick, who watches you? *Our mother.* Yes, your mother watches over you, until you get—*better*, and how will she feel when you are better? *Glad.* Who makes you better when you are sick? *God.* It is God who makes us—*better*, when we are —*sick.* This poor man grew worse and—*worse*, and at last he—*died.* You may be sure his mother felt very—*sorry*, when her—*son*—her—*only son*—died. When a person dies, where do we put his body? *In the grave.* Well, this young man was —*dead*, and a number of people came to—*bury him.* They were very sorry for the poor—*widow*, and a large number came to his—*funeral.* Do women attend our funerals? *No.* But in the country where this man lived, the women went to the—*funeral.*

Well, the people all met, and they lifted the—*coffin.* This little boy says *coffin*, but they did not use coffins in that country—they wrapped the body in—*clothes*, and buried it without a—*coffin.* They lifted the—*body*, and went away with it to the—*churchyard*, or the burying—*ground.* They walked on very—*slowly*, and they were all very—*sad*, and the poor mother was—*weeping*. She followed the dead—*body* of her only—*son*, to the—*grave*.

Just as they were going out of the town, Jesus and his disciples with a great multitude of people were coming into it. Jesus met the—*funeral*, and he saw the widow; what doing? *Weeping*. How would he feel for her, when he saw her weeping? He would feel—*sorry*. Yes, he was very sorry for—*the poor widow*, for he knew that this was her—*only son*, and that her husband—*was dead*. Well, Jesus came up, and he saw the woman weeping; he said "Weep not." Why did he tell her not to weep? Stop a minute, and we shall see. Well, Jesus went and touched the bier (picture out the term), and the men all stood still. They knew that Jesus had all power—could do what he—*pleased*. They all stood, looking eagerly to see what he—*would do;* and the poor mother did not speak, but could Jesus know what she would like? Yes, he knew what was in—*her heart*, and he knew that she would feel so happy, if her son would live again. When they were all standing still, Jesus said, "Young man, arise." To whom did he say that? To the young—*man*, that was—*dead*. And do you know what he did? He sat up and began to speak. Who made him do that—*Jesus*. Yes, it was Jesus who made him—*alive*, and then he gave him to his—*mother*. Picture out the scene—the multitude awe-struck, the calm bearing of our Saviour, the joy of the mother. The children will now see the reason for "Weep not." Various lessons may be deduced from the simple narrative—the compassion, the love, and the power of Jesus. Could a man have done this? What then must Jesus have been? Compassion for the distressed and for the mourner is taught by it, and, if the pupils are old enough to comprehend it, the doctrine of the resurrection may be enforced.

EXAMPLE III.—EMBLEM.*

JOHN III. 14.

The picture.

The Israelites in the Wilderness—their sin, its consequences—the remedy provided—a serpent of brass. The command—look and live.

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* We shall give the mere outline of this lesson, and must refer the reader for further illustrations to Mr Stow's "Bible Training."

The effect—those who looked, in obedience to the command, lived.

Application. As the Israelites—so we—are sinners—the poison of sin is in us—the end of which is death. As a remedy was provided for the serpents' bite in the brazen serpent, so a remedy is provided for us in the man Christ Jesus. As the serpent was lifted up, so was Christ. The command to the Israelites was—look and live, so to us the command is—look unto me all ye ends of the earth, and be ye saved. In both cases, those who, in obedience to God's command, look, shall live—those who refuse to look shall die.

EXAMPLE IV.—PRECEPT.

I. THESSALONIANS V. 15.

Such a passage as this is best illustrated by some practical case, which may have occurred in school; by some anecdote, or by a supposed case. Thus, two boys are in school, the one strikes the other without provocation. What was he thus doing to him. He was rendering him *evil.* Two boys are engaged in play, swinging it may be; the one, being stronger than the other, seizes unjustly the rope of the weaker. He is doing him *evil.* The examples may be multiplied to almost any extent. In the first case, the boy who was struck, strikes in return. What is this? It is rendering evil for evil. What ought he to have done? How might he have rendered good for evil? When the truth has thus been illustrated by examples which come within the range of the child's experience, reference may be made to the example of our Lord, who, when he was reviled, reviled not again, and who did good to his bitterest enemies; and thus even very young children may learn to imbibe the mind that was in Christ, and to be guided in the little incidents of their daily life by his blessed example.

Second Stage. Subject Matter of Instruction.

231. In treating of the second stage of religious instruction, we have to deal, not so much with a change of principles in our mode

of procedure, as with a difference of degree in the kind and amount of instruction. The principles followed out in this, and the third stage, differ very little from those adopted in the first. The pupils are now supposed to be capable of reading the Bible with tolerable fluency, and, instead of having its stories and narratives told them, they may be allowed to read them for themselves. But in explaining these stories and narratives, the method of picturing out must be adhered to, and the information wrought in by questions, ellipses, and illustrations. The outlines of the narratives have been given in the first stage—these outlines are now more minutely filled in. The attention of the pupils should be turned to the order in which the events previously brought under their notice occurred. For this purpose the historical portions of Scripture should be studied chronologically. The pupils may have the grand leading dates fixed in their memories, so as to be able to refer the events to their proper times. The outlines of Scripture Geography should be taught, not systematically, but incidentally in connection with the daily lesson. Whilst a graduated course of instruction in Scripture History is thus adopted and carried out systematically, the emblems and precepts should not be overlooked. On the supposition that a Bible lesson is given every morning for five days in the week, three of these might be on portions of history, one on the emblems, and one on the precepts. It is not meant that the historical portions are to be taught merely as so much history, and nothing more. From each portion fit and appropriate lessons should be drawn. The history should be employed to illustrate the precepts, and in dealing with the precepts constant reference should be made to the history. In all cases, personal application should not be lost sight of. What may we, what may you, learn from this passage? should be constantly on the teacher's lips. Two years of the child's school life devoted to such a study of the word of God, combined with the training of the first stage, would serve to impart an amount of religious instruction, and an acquaintance with Scripture, which are possessed but by few; and if all the children in the nation were systematically under such training, who can estimate the good that might be effected?

Second Stage. Instruction in Doctrine.

232. Direct and systematic instruction in doctrine ought to be commenced at this stage. Fortunately in our own country we are supplied with a manual for this purpose which can scarcely be surpassed. The "Shorter Catechism" forms one of the most admirable summaries of Christian doctrine which has ever been produced; and it is much to be lamented that its use is not now so general as it once was. No doubt, like every other good thing, it is liable to abuse; and that it has been much abused no one can deny. It was often taught by mere rote, and children were compelled to commit to memory what was to them unmeaning sounds. This was wrong; but we are inclined to believe that even this was a failing which leant to virtue's side. Be that as it may, however, we hold the opinion very strongly that the Catechism ought to bo taught in our schools; and we are equally strong in our opinion that it is possible to teach it rationally and intelligently. We would reverse, however, the order generally followed. Instead of having it committed to memory first, and thereafter explained and illustrated, we would explain and illustrate it first, and thereafter cause it to be committed to memory. We would make each question the subject of an oral lesson, in which we would explain the terms, illustrate the truth taught—in one word, picture out the meaning of the whole. By the time this process was gone through, the words of the answer would have been repeated many times, and the committal to memory would thus be an easy task. Where the doctrines are thus first lodged in the understanding, the memory has little difficulty in retaining the form of words in which they are expressed. Were the Catechism taught in this way, we believe all experience goes to prove that it may be rendered exceedingly useful in giving form and shape to the doctrines of the Bible.

Second Stage. Specimen Lessons

233. We shall give one or two specimens of lessons adapted to the second stage of instruction, in which the reader will observe that an effort is made to make a practical application of each lesson.

EXAMPLE I.—NARRATIVE.

DEATH OF JOHN THE BAPTIST. MATTHEW XIV. 1-12.

Herod's sin.

Herod, Tetrarch of Galilee, son of Herod the Great, while on a journey to Rome, had persuaded Herodias to desert her husband. Show the nature of the sin—both adultery and incest.—Matth. v. 31, 32; Lev. xviii. 16.

John's reproof.

John's connection with Herod—Mark vi. 20,—he boldly reproved him. Note, we ought to use our influence over our fellows for their good, and especially our influence over wicked men.

Revenge.

Herod, instigated by Herodias, (Mark vi. 19) resolves on John's ruin. Those conscious of sin, and who are unwilling to give it up, do not like reproof; so here, instead of receiving and profiting by the reproof, Herod casts John into prison—no disgrace to John (Matth. v. 11, 12). Herod would have killed him at once, but was afraid of the people. Great sinners often great cowards—men who do not fear God often fear their fellow men.—Matthew v. 32, 33.

The feast.

Show how Herodias seized the most favourable moment for obtaining her wish. The children of this world are wiser in their generation than the children of light. A birth-day feast—the guests, the lords, high captains and chief estates of Galilee—the amusement — Salome danced before them. Notice the seclusion in which women are kept in the East, and the immodesty of Salome's conduct.

Herod's promise.

Herod highly gratified, makes a rash promise—confirmed by an oath—compare Jephthah, Saul, and note the danger of rash vows and oaths—he gives an unconditional promise—whatever she would ask.

Salome's demand.

Salome's conduct—asks her mother—note that in this she did right—the mother's order—why this request—should Salome have obeyed (Eph. vi. 1.) Note also the fearful power of evil example—a power which increases the more closely we are connected with the person who wields it.

Herod's conduct.

Herod was sorry—not true sorrow (2 Cor. vii. 10)—what would true sorrow have led him to do?—his sorrow is easily overcome—1st. On account of his oath—should it?—2nd. On account of those that sat with him—he feared their ridicule. Why should he have any scruple to behead a poor fanatic, who was interfering where he had no right. Herod yields, and commands him to be beheaded.—Note the danger of standing in the way of sinners, of obeying man rather than God—note also how one sin leads to another.

The death.

John was beheaded in prison.

The effect.

Conscience smote Herod (ver. 1-2.) He was afraid that John had risen, and he had no peace. Be sure thy sin will find thee out—God will punish the sinner.

EXAMPLE II.—MIRACLE.

STILLING THE TEMPEST. MATTHEW XIV. 22-23.

The occasion.

Jesus had done a notable miracle, and, not at all desirous of renown, he wished the multitudes to separate; he therefore orders the disciples to embark in a vessel, and go before him to the other side.

Christ alone in prayer.

The disciples obey the Master, and embark—he sends the multitude away, and then goes up to a mountain alone to pray. Picture the time—evening; the place—a lonely mountain by the shore of the Sea of Galilee; the suppliant—the man Christ Jesus. He hath left us an example in prayer, secret prayer, where no eye sees us but that of God—go and do likewise.

The storm.

The disciples had obeyed their Lord, but were overtaken by a storm—Christ's people must obey his word, at whatever risks—they must follow him through good and through bad report. Picture the scene—it was night—the wind was contrary—in these land-locked seas, squalls of wind are very common, and come on very suddenly—they were about the middle of the lake—the waves were dashing against their boat, which was tossed about—they strove hard to reach the land—they toiled in rowing. How they would have wished to have Jesus with them then—He was with them—He knew their danger, and would thus try their faith.

Jesus comes.

About the fourth watch (explain the watches) *i.e.* some time between three and six in the morning, probably in early dawn; Jesus came to them walking on the surging billows. Note here one miracle—the power of Jesus over the ordinary laws of nature.

Terror.

The disciples, already alarmed for their safety, were now doubly alarmed. Sailors in all ages have been superstitious—they thought it a spirit. To see an object between them and the horizon, treading on the top of the waves, might well have added to their terror—they cry out for fear.

Consolation.

Jesus consoles them—calms their fears—" It is I, be not afraid,"—I, your master, your friend, your teacher; why fear? Those who have Jesus as their friend need not fear his coming near them—He always comes to such with a blessing, whether his coming be in a storm or in a calm.

Peter's conduct

Peter's conduct—quite characteristic—always ardent and forward—bid me come unto Thee on the water—Come. Peter walked on the water to go to Jesus—the boisterous wind and the rolling sea led him to think of himself, and to forget Jesus—he began to sink. There is no safety but in looking to Jesus; simple faith in him will enable us to go through fire and water. Peter's despairing cry—Lord, save me—a cry never uttered in vain—the dearest cry that can ascend into a Saviour's ears. It is only when we *feel* ourselves sinking that we will utter this cry.

Peter rescued.

Jesus caught him—rebuked his little faith. Contrast with this the woman of Tyre—great is thy faith—and show from this the true nature of faith—implicit trust in Jesus.

A calm.

Immediately the wind ceased—the sea calmed—a second miracle; and they were at the land—a third miracle. Jesus has all power in heaven and earth.

The effect.

They came and worshipped him—acknowledged him as the Son of God. How do we regard him?—what worship do we pay him?

EXAMPLE III.—EMBLEM.

ZECHARIAH XIII. 9.

The picture.

Silver in its natural state is not pure—it is mixed with dross. The dross is not on the surface merely, but pervades the whole substance. Though thus mixed with dross, silver is precious, and can be purified. The method—it is put in a fining pot—a crucible—fire is applied. The effect—the dross is separated from the silver—the former floats on the surface, the latter sinks. The dross can thus be removed, and by continuing the application of fire, the whole of the impurities may be skimmed off, and pure silver left. It is said that the refiner watches the silver until he sees his own image reflected from its surface; he then knows that the refining process is over, and that the silver is fit to be used.

Application.

The silver with the dross combined represents first the Church in general, and then each true member of that Church. Confining our attention to the individual believer—As the silver is mixed with dross, so the believer has much indwelling sin and corruption. Notwithstanding the dross, the precious metal is still there, and can be purified.—So, notwithstanding his sin, the believer is still a child of God. As the refiner applies fire, so God brings his children into the furnace of affliction. As the fire separates the dross from the silver, so the affliction is used by God as a means of sanctification to his people. As the refiner watches until he sees his own image reflected from the surface of the silver, so God waits until he sees the original likeness, in which man was created, reproduced in his people, and then he takes them home.

We have merely given the heads of the lesson. In such an emblem as the foregoing, "Great caution must be exercised, as few, if any, of the children can have much experience of affliction in its true nature, as a chastisement, or correction, in removing the dross which attaches to every human being. What is meant by the fire of affliction may not be quite apprehended by them. The trainer, therefore, ought to content himself with a simple analogy, *within* the experience, or at least the understanding, of his pupils." *

Third Stage. Subject Matter of instruction.

234. In the third stage of religious instruction, the same principles are observed as in the first two. The instruction will consist in filling in more minutely the outlines already learned. The finishing touches, so to speak, will be given to the picture, previously drawn in outline. We may, accordingly, confine our remarks to the subject matter of the lessons suitable for this stage. As our religion is one which is based on historical facts, the Old and New Testaments ought to be studied in their bearing on the revelation of God's will to men. The Old Testament should be viewed as the history of the preparation for the New; and for this end the lives of the Patriarchs, the Mosaic ritual, and the dealings of God with the Jewish nation, should be examined in special reference to their bearing upon the coming of Christ. Prophecy also, in so far as it relates to the establishment of Christ's Kingdom upon the earth, should be considered, and its fulfilled predictions exhibited. In dealing with the New Testament the life of our Saviour should be carefully gone over, supplying, as it does, the foundations on which the Christian religion rests. His birth, his early life, his public ministry, his teaching, his death, resurrection, and ascension, should be examined, not

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* Stow's "Bible Training."—Eighth edition, p. 76.

only as furnishing examples for our imitation in all the events of life, but also the seed from which our holy religion has sprung. The actual budding and blossoming of this seed, as exhibited in the Acts of the Apostles, should be historically traced, and the attention of the children turned to the effects which our Saviour's life and death produced on the world. While what we may term these historical lessons are being given, nothing that serves to throw light upon the word of God should be overlooked. Geography, chronology, manners and customs, in a word, all that relates to the antiquities of the Jews, should be pointed out; not necessarily in formal lessons, but incidentally, as opportunity occurs in the course of the daily instruction. The emblems and the precepts of Scripture should also receive their due share of attention. Indeed, with pupils somewhat advanced in this stage, it might be advisable to consider, somewhat in detail, one or more of the epistles of the New Testament. This sort of instruction is, to a large extent, overlooked both in school and from the pulpit, and it is not too much to affirm that there are comparatively few who have anything more than a mere cursory acquaintance with those letters which have come down to us stamped with the seal of divine inspiration. It is impossible, in the brief period of a child's school life, to give a minute acquaintance with all parts of Scripture; but much may be done to put him on the road whereby he may for himself study the whole word with appreciation and understanding. Formal instruction in doctrine should be carried out through all this stage. No new text-book is necessary; the Shorter Catechism, if judiciously and intelligently taught, will furnish scope enough for systematic instruction in doctrine. We might also mention instruction in the Evidences of Christianity as coming properly under this stage. We are afraid, however, that, in the majority of our elementary schools, such instruction, except of the most incidental kind, is well nigh impossible. To compensate for the absence of direct instruction in the Evidences, the teacher should embrace every opportunity of presenting to his pupils those facts and reflections, which will enable them to give a reason for the hope that is in them. We need scarcely say that in this stage, particularly, Scripture should be made its own interpreter, and that, for this end, the children should be led to compare scripture with scripture, and to employ one passage to throw light on another. We shall subjoin a few specimens of lessons adapted to this stage of instruction.

Third Stage. Specimen Lessons.

235. EXAMPLE I.—NARRATIVE.

ACTS xvi. 12-15.

Macedonia. Macedonia, one of the three provinces into which the Romans divided the country lying south of the basin of the Danube, and between the Adriatic and Ægean seas—its exact position—it lay in the north-eastern part of the district just named; on the south was Achaia, on the north-west was Illyrium.

Philippi. Philippi, the chief city of that part, *i. e.*, of the district east of the river Strymon, was founded by Philip, the father of Alexander the Great, and was the scene of the last struggle of the Republicans of Rome. It was also a colony. Note, our idea of the word colony is completely different from the Roman idea. A colony. A colony was a miniature of Rome, a sort of military town, independent of the governors of provinces (pro-consuls, deputies), governed by its own magistrates (duumviri), of whom there were two, in imitation of the consuls at Rome, who were attended by their lictors (sergeants).

It was in Macedonia—in Philippi—where the gospel was first preached by the apostles in Europe.

Paul and his companions having arrived there, in obedience to the heavenly vision (ver. 9), remain several days. No synagogue. There was no synagogue, as the Jews were not numerous enough to have one. The place for worship was outside the town—free from interruptions, and, for the sake of ablution, which formed a prominent part of the Jewish worship, it was beside the river. The congregation. The congregation consisted mainly, if not entirely, of a few Jewish women, some of whom were proselytes.

Paul preaches.

Paul joined them on the Sabbath, sat down among them, and then addressed them—preached Christ. Note, Paul seized every opportunity of declaring the gospel. What influence should his example have on us?

Lydia.

Lydia, belonging to Thyatira, a city of Asia Minor (Rev. i. 11,) a proselyte (which worshipped God)—a seller of purple, *i. e.*, probably engaged in dealing in purple dyes—a trade which, from an early period, flourished in the neighbourhood of Thyatira—was one of Paul's hearers. The Lord opened Lydia's heart that she attended to Paul. Note, the carnal mind is enmity against God—it must be opened (2 Cor. iv. 6; 1 Cor. ii. 14). Lydia believed in Christ as the Messiah. She received the word in faith—as a sign she received baptism—both herself and her household, and became the first fruits of the apostle's preaching in Europe.

God works.

The effect.

The effect. She constrained them to make her house their home during their stay. She had received spiritual blessings—she ministered of her worldly substance. She showed her love to Christ by attention to his apostles—she was not unmindful of the cup of cold water, and she did not lose her reward (Matth. x. 42). Note, True conversion always brings forth meet fruits—faith shows itself by works (James ii. 18). If we have been made partakers of the grace of faith, we will exhibit it in our conduct, in doing good unto all men as we have opportunity, but especially to them who are of the household of faith.

The example.

EXAMPLE II.—PRECEPTIVE.

GALATIANS VI. 1–10.

Note the connection—the doctrines had been proved—the object in writing the Epistle had been accomplished; but he is writing to fickle, erring men, and must give practical rules for the conduct of life—he must lay their duty before them, as one who watched for their souls. This is Paul's general plan, hence we have here practical exhortations regarding their conduct—1st, to the erring; 2nd, regarding themselves; 3rd, regarding their pastors; 4th, regarding all men.

I.—The Erring.

a. The error—overtaken in a fault—note the word—it implies suddenness—not habit—show the difference. —Even a child of God—a true believer—may be overtaken in a fault—so David, Peter, &c.

b. Their duty to him—not cast him off.—Note our duty to an erring brother—restoration.—Show its meaning here—bring him from his error—.Show it to him—take him back to the communion of the church—to the paths of virtue. This is God's plan—he leads his people back to himself—God-like in us to do the same.

c. The mode of doing it—spirit of meekness—not upbraiding—Christ simply *looked* on Peter, but the look was one of love and pity. The goodness of God leadeth us to repentance. "There is surely some better method of bringing back a wandering sheep, than by breaking his legs."

d. Reasons for this conduct:—

1. Our own liability to fall—we may be tempted—we are not secure—hence we should sympathize with a fallen brother.
2. By so doing we shall be bearing another's burden—and so fulfilling the law of Christ—burden—the man's peculiar temptation—from which we may be free—it may be strong drink; we have no inclination that way—let us help a brother. This fulfils the law of Christ. Show how—He came not to be ministered unto, but to minister.
3. Standing aloof from a brother may lead to self-deception—verse 3.

II.—Our duty to ourselves.

a. Seeing that we are thus liable to self-deception, how should we act? Prove our own work—*i. e.*, try it, test it—What by? God's truth.

b. Effect of this—we shall have rejoicing in ourselves; *i. e.*, we shall have the approbation of our own conscience.

c. Reason for this conduct—we must be judged alone —no man can give a ransom for his brother. Apply this reason—not godly parents—not a pure church.— not a sound creed—but a man's works.

III.—Duty to Pastors.

a. The duty—to communicate in all good things.— Note the expression—hence the lesson of duty incumbent on all Christians—compare this with Christ's teaching.

b. Whose duty—he that is taught.

c. Duty to whom—those who teach.

d. Inducements to this duty—we shall reap as we sow. Note verses 7th and 8th. Two kinds of sowing —two harvests corresponding—one—corruption—the other—life everlasting. This should keep us from being weary in well-doing, for in due season we shall reap.

IV.—Duty to all men.

a. Do them good—good, not evil—good temporal— good spiritual—good to the body—good to the mind— good to the soul.

b. When?—as we have opportunity. This is the only limitation. We are judged according to what we have, and not according to what we have not.

c. Where should we begin—at home, with our brethren in the house—those of the household of faith.

EXAMPLE III.—EMBLEM.*

JOB XXI. 17.

Show that by the word *candle*, any light, such as a lamp, torch, &c., is meant.

Refer shortly to the uses of light, and describe its effect on the mind. How uncomfortable are children in the dark, though they hardly know why. Show that the feeling may arise from a fear of danger, which in the dark is more terrible, because we know not on what side to expect it. "Forewarned, forearmed." But see! the lights are brought in! What a load is off their spirits! How their faces brighten as they look round with confidence to each other, and exchange the happy smile or cheerful remark.

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* This example is extracted from the "Glasgow Trainer's Record," p. 138.

The effects of the candle may therefore be stated as *safety, comfort, joy.*

With us the candle is usually put out on retiring to rest. In the East there is a lamp kept burning in every bed-room. Sooner would the family want their supper than their light. Draw out the reason. Scorpions, centipedes, snakes, crawl about in all directions, and if not scared by the light may at least be seen and avoided.

It follows that the want of the candle must be attended with much *discomfort* and *danger*, and is the sign of *great poverty* and *distress.*

How oft is the candle of the wicked put out? Show that some questions require no answer, but are equal to assertions; and by varying the tone of voice that this question may mean either that it is seldom put out, or the opposite. Allow the pupils to decide as to the meaning, and, in all probability, their verdict will be that it is very often or even always put out.

Give a rapid sketch of the previous history, and cause the children to turn up the passages quoted below, occasionally asking a question on the meaning.

Job was rich in sheep and camels, oxen and asses; he had hundreds of servants, and was blessed with a family of seven sons and three daughters. His candle burned brightly. But his oxen and asses and camels were carried off by robbers—his sheep were burnt by lightning—his servants slain with the edge of the sword—his children buried under the ruins of their eldest brother's house, and Job himself was smitten with sore boils, from the sole of his foot unto his crown. His candle was put out.

His friends came to comfort him, but Job found them to be miserable comforters. They said, "Whoever perished being innocent, or when were the righteous cut off?" ch. iv. 7. "The children of the wicked are crushed in the gate, and the robber swalloweth up their substance," v. 4, 5. "The light of the wicked shall be dark in his tabernacle, and his candle shall be put out with him," xviii. 6. "He shall suck the poison of asps, the viper's tongue shall slay him," xx. 16.

What does all this show that they thought of Job? and what led them to this opinion? They were judging of his character from his worldly condition.

Job thus attacked defends himself by asking, "Wherefore do the wicked live, become old, yea, are mighty in power?" "Their houses are safe from fear, neither is the rod of God upon them." They send out their little ones like a flock, and their children dance." "They spend their days in wealth, and in a moment go down to the grave," xxi. 7, 9, 11, 13. And Job is not alone in such a statement. The Psalmist says, "For I was envious at the foolish, when I saw the prosperity of the wicked." "For there are no bands in their death, but their strength is firm." "They are not in trouble as other men, neither are they plagued as other men," Psalm lxxiii. 3, 4, 5.

What then did Job mean when he said, How oft is the candle of the wicked put out? That the wicked frequently enjoy worldly prosperity while the righteous suffer distress.

Give examples of the candle of the wicked being put out, and the contrary. The covetous and lying Gehazi is smitten with leprosy; the wicked Haman is stripped of his honours, and hanged on his own gallows; and the proud Herod is eaten of worms. But while the godly Lazarus begs, Dives fares sumptuously, and Nero dances while the Christians are burnt, or are devoured by wild beasts. "In this world ye shall have tribulation." "Suppose ye that these Galileans were sinners above all the Galileans because they suffered such things? I tell you, nay; but except ye repent, ye shall all likewise perish."

However ready therefore we may be to judge of other men's character or state before God by their condition in the world, or the manner of their death, it is altogether unscriptural.

When we are inclined to envy the prosperity of the wicked, what should we remember?

"A man's life consisteth not in the abundance of the things which he possesseth," Luke xii. 15. "In His favour is life," Psalm xxx. 5. "The wicked is reserved to the day of destruction," Job xxi. 30. "In Hell he lifted up his eyes, being in torments," Luke xvi. 23. "What shall it profit a man if he shall gain the whole world, and lose his own soul?" Mark viii. 36.

> The troubles that afflict the just
>   In number many be,
> But yet, at length, out of them all
>   The Lord doth set him free. Psalm xxxiv. 19.

The believer can say, "God is my portion for ever," Psalm lxxiii. 26.

Incidental Religious Instruction.

236. We have already remarked upon the spirit in which these Bible lessons should be conducted. We may, in conclusion, observe, that the really earnest teacher will embrace every opportunity that presents itself of turning the attention of his pupils to the contemplation of those things which are unseen and eternal. Every lesson, on whatever subject it may be, should be given in a Christian spirit. Thus and thus only can we have a truly religious education. When the master's "conversation" is seen to be in heaven, it will produce a hallowing influence throughout the whole school, more powerful by far than any amount of dogmatic instruction. The habitual recognition, in every school duty, of our dependence on, and responsibility to God, will insensibly lead the pupils to do all things as under the "Great Taskmaster's eye." Religion, instead of being regarded as a dress that may be assumed or laid aside according to circumstances, will thus become the very atmosphere they breathe, and they will learn to understand and to appreciate the command—"WHETHER, THEREFORE, YE EAT OR DRINK, OR WHATSOEVER YE DO, DO ALL TO THE GLORY OF GOD."

PROGRESSIVE EXERCISES IN ARITHMETIC

FOR

JUNIOR CLASSES.

By JOHN MANSON, Teacher, Glasgow.

Of this little work 5000 copies have been sold within two years, chiefly in Glasgow and its neighbourhood. From this considerable sale, within so short a period, it may be safely inferred that the work possesses distinctive features and particular merits that have commended it to the preference of those Teachers who have had an opportunity of examining it. It is desirable that these should be brought under the notice of the profession more at large; but this cannot very well be done without entering into a more extended detail than the limits of a prospectus will well admit.

The book was drawn up for the use of the author's own pupils, and put in type chiefly to facilitate his labours among them, and to supply those friends who approved of his mode of teaching. It differs materially in respect of gradation from all other works yet issued of the same extent. The object, too, is different, seeking as it does, by numerous examples carefully constructed and arranged, to illustrate principles on which rules are founded, rather than to illustrate rules for which no reason has been assigned. The majority of School Arithmetics are greatly deficient in systematic arrangement. In most of them no doubt some attention has been paid to gradation in the length of the Exercises, but as far as the real difficulties of working go, the first exercise given to illustrate any rule is frequently as puzzling to the learner as the last. This oversight has been carefully avoided in the present work. Each example has been carefully considered, and in no case has a single figure been written at random. Simplicity and clearness are the natural result, and the learner can never in his progress encounter more than one difficulty at a time. The very youngest pupils are made to work intelligently from the beginning, and whatever explanations are received at the black-board can be followed up successfully from the book at the desk. Much discouragement to the pupil is thus prevented and much labour to the teacher saved.

Referring to the pages of the book itself, and beginning with Addition, it may be remarked that the first 50 Exercises are founded on the second line of the Multiplication Table and the remarks given at page 6 of the Arithmetic; so that when once that line has been learned by the pupil, and the principle pointed out to him by the teacher, he has no difficulty in working the rest of the exercises. Take, by way of illustrating the method, "Exercise 4" in the Arithmetic:—*Teacher*, 1 and 2? *Pupil*, 3; *T.* 3 and 3? (2 times 3,) *P.* 6; *T.* 6 and 6? (2 times 6,) *P.* 12; *T.* what is the right hand figure of 12? *P.* 2. The teacher then shows that if 2 and 2 be 4, 12 and 2, 22 and 2, 32 and 2, &c., must all have 4 for the right hand figure. Putting down the 4 and carrying 1 we have—*T.* 1 and

6812
8466
4283
7642
5431
――――

3? *P.* 4; *T.* 4 and 4? *P.* 8; *T.* 8 and 8? *P* 16; *T.* what is the right hand figure of 16? on receiving the answer 6, the teacher shows that 18 and 8, 28 and 8, 38 and 8, &c., must all have 6 for the right hand figure. Again, asking how many are 6 and 6, he shows that 16 and 6, 26 and 6, 36 and 6, &c., must all have 2 for the right hand figure, and so on for all the others. This, to those who have never tried it, may appear tedious, but it really takes very little time when at the black-board, and the decided advantage of this method over that of allowing the pupil to go to his seat and make out his answer by counting his fingers, is known to the teachers only who have tried both. Having learned the pupils the even numbers, such as 6 and 6, 7 and 7, &c. it is not difficult to get them to see that if 6 and 6 be 12, 6 and 7 must be 13; and that 16 and 7, 26 and 7, 36 and 7, &c., must each have 3 for the right hand figure, and so on with the other numbers. When showing them these facts it is very easy to point out at the same time that if 6 and 6 be 12, 6 taken from 12 must have 6 for a remainder; and that if 6 from 12 be 6, 6 from 13 must be 7; and 6 from 11 must be 5, &c. To carry out this principle the first 30 exercises in Subtraction have been framed, as may be seen from exercises 9 and 14 in the margin, with what has been written above.

9.
86846842
38372916

14.
65226633
27646866

In passing it may be remarked that very many Teachers using this book, and adopting the method pointed out, have affirmed that their pupils not only learn these two rules more easily, but that they also do double the work and that more cheerfully.

In Multiplication little comparatively can be done to smooth the way of the beginner. The exercises however are made as progressive as possible; and a few remarks are made explanatory of the easiest and best method of getting up the *Table* as a preparation for Division.

If little can be done in the way of simplifying Multiplication, the same cannot be said of Division. No Arithmetic that the author is acquainted with has this rule simplified as it might be. This may be seen by comparing the few exercises that are here given, and those in the book from which they are taken, with those in any other Arithmetic. These it will be seen are to be divided by the number 6, and a little examination will show that there is a principle carried out in every one of them, as well as in the others of which they are a sample.

9. 6182436÷6
28. 84968544÷6
10 42544830÷6
35. 97945536÷6
21. 67879284÷6
39. 89395776÷6
40. 23935734÷6

Long Division, which is generally found by Teachers and Pupils to be the most difficult rule in Arithmetic, is also much simplified, there being 40 exercises formed in a similar manner to the following.

2. 6863958÷31
3. 6689601÷41
9. 48899883÷211
17. 9587448÷52

Teachers are requested to examine carefully all the exercises given above, especially Nos. 39 and 40, along with the remarks made at the foot of page 15 of the Arithmetic.

In short it may be remarked generally that in every rule there is only one difficulty introduced at a time, and that there is a system followed throughout, so that whatever explanations are given to the pupil at the black-board can be followed up successfully by him from his book at the desk.

From Mr. MACAULAY, *First Master, Established Church Normal Seminary, Glasgow.*

I have examined very carefully "Manson's Arithmetic," especially the elementary part, with which I am very much pleased. The exercises throughout are skilfully and judiciously graduated, and evidently formed upon a fixed principle, which the author has pursued with great ingenuity and success. Such a series of exercises must save the teacher much labour, and enable the pupil to overcome the difficulties of the elementary rules in a much shorter time than usual. This is particularly the case in Long Division, which has hitherto been so great an obstacle to beginners; any one at all acquainted with the difficulty of teaching this rule will at once appreciate the beauty and simplicity of the system adopted. I wish the work all the success it so well deserves.

From Mr. DONALDSON, *First Master, Senior Department, Free Church Normal Seminary, Glasgow.*

I heartily recommend your little manual. It acknowledges the pupil's difficulties; and the selection and arrangement of the exercises under each rule show a sympathy with the pupils under these difficulties which will encourage them to persevere. It is an excellent introduction to any of the larger and more advanced works on the same subject.

From Mr. DICKIE, *Teacher, St. David's Parish School.*

I have used Mr. Manson's "Arithmetic for Junior Classes" ever since its publication. It is certainly the best for simplicity and progressive arrangement of its exercises I have ever seen. For schools in which the junior arithmetic classes are under pupil teachers, or monitors, it will be found admirably adapted, and for schools where the master has a number of classes or pupils at different stages of advancement, all under his own superintendence, it is, so far as I know, unequalled.

From Mr. ROBERTSON, *Milton Sessional School.*

By the publication of his "Progressive Exercises in Arithmetic," Mr. Manson has supplied a desideratum that has been long felt by all professional men. From experience, I find that the rules are most easily picked up, even by the dullest; that much time is saved to the teacher, and a greater proficiency attained in a shorter time than by the use of any other Arithmetic as yet before the public. I have only to recommend teachers to examine a copy, with the certainty that they will immediately introduce it into their schools, when they will soon appreciate its value.

From Mr. CUNNINGHAM, *Teacher, Old Vennel School.*

I have used your "Progressive Exercises in Arithmetic" in my junior classes for six months, and find it admirably adapted for such a class. The plan on which the exercises are constructed, and the easy gradation observed throughout the work, render the path of the pupil as smooth as perhaps it is possible to make it. At the same time, the number and variety of exercises introduced secure that the pupil will thoroughly master every step as he proceeds.

From Mr. MATHIE, *Teacher, Green Street Schools, Calton.*

This little manual differs from all others which have come under my observation, inasmuch as they—to say the best of them—are but a mere collection of exercises huddled together without the least attention to order and progression, whereas this book abounds with exercises very carefully selected and judiciously arranged.

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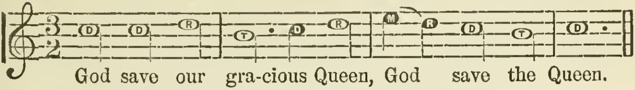

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This work is now in extensive use by Teachers of Singing as a class lesson-book throughout England, Ireland, and Scotland, and numerous testimonials have been received from Teachers as to its value, and the comparative ease with which singing is taught by means of the "Union" Notation.

THE 'UNION' SCHOOL SINGING-BOOK,

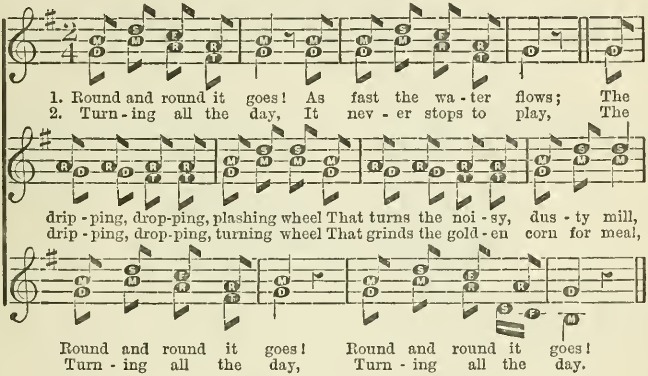
A First Lesson-Book for Children in Singing at Sight,

Printed in "Hamilton's Patent 'Union' Musical Notation," combining the Old and Tonic Sol-fa Notations in one.

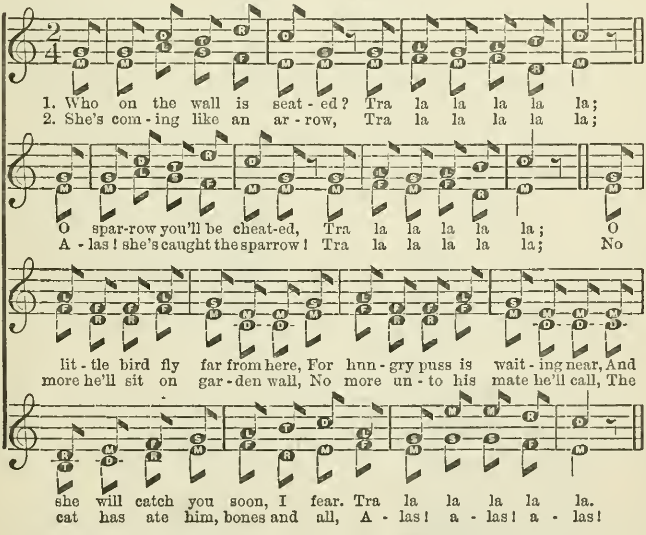
THIS work has been compiled as a first lesson-book, for children in Schools, in singing at sight. It begins with exercises of the very simplest kind, and proceeds gradually to those of a more difficult nature, introducing new features progressively, and only one at a time. Time Tables, a Musical Ladder, Scales, and Examples of Notes, Rests, Time Signatures, &c., have been given, but it has not been thought advisable to occupy any portion of the work with explanations of the principles of music, but rather to devote the whole space to exercises and songs, leaving the Teacher to impart orally as much explanation as he thinks desirable; after the Tables, therefore, the work begins with the simplest musical phrases, those formed on the common chord being first given, in different forms, and gradually the whole scale is introduced. The Scale is next sung to words in various forms, melodies of the simplest kind follow, and afterwards rounds and duets, nothing beyond two-part harmony being introduced. The words have received careful attention, and only sentiments suited for children find a place. It is believed that the work will be found to supply a convenient text-book for those who are engaged in teaching music to children in ordinary schools. —*See specimen of the music on next page.*

SPECIMEN OF THE UNION SCHOOL SINGING-BOOK.

No. 81 KEY G. THE MILL WHEEL.


1. Round and round it goes! As fast the wa - ter flows; The
2. Turn - ing all the day, It nev - er stops to play, The
drip - ping, drop-ping, plashing wheel That turns the noi - sy, dus - ty mill,
drip - ping, drop-ping, turning wheel That grinds the gold - en corn for meal,
Round and round it goes! Round and round it goes!
Turn - ing all the day, Turn - ing all the day.

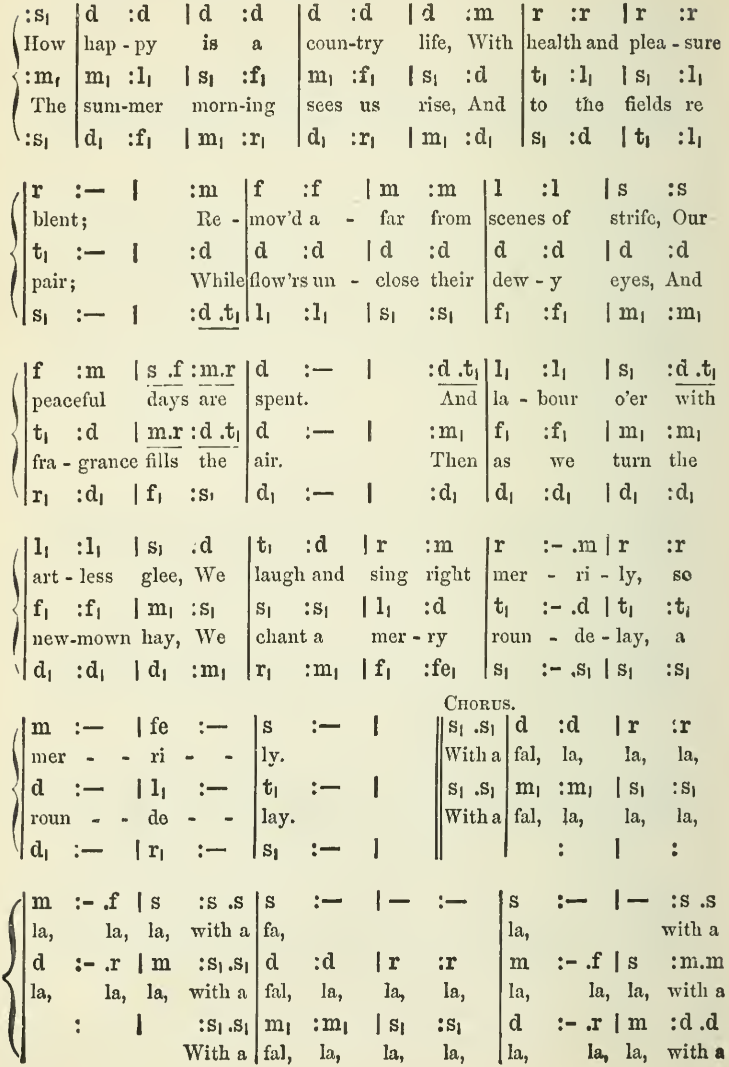
No. 66. KEY C. THE SPARROW.


1. Who on the wall is seat - ed? Tra la la la la la;
2. She's com - ing like an ar - row, Tra la la la la la;
O spar-row you'll be cheat-ed, Tra la la la la la; O
A - las! she's caught the sparrow! Tra la la la la la; No
lit - tle bird fly far from here, For hun - gry puss is wait - ing near, And
more he'll sit on gar - den wall, No more un - to his mate he'll call, The
she will catch you soon, I fear. Tra la la la la la.
cat has ate him, bones and all, A - las! a - las! a - las!

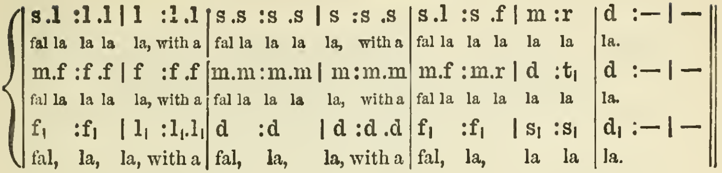
SPECIMEN OF YOUNG'S SCHOOL SINGING-BOOK.

HOW HAPPY IS A COUNTRY LIFE.

KEY B♭. *Music by* CALLCOTT.—*Words by* W. T.


How hap - py is a coun-try life, With health and plea - sure
The sum-mer morn-ing sees us rise, And to the fields re
blent; Re - mov'd a - far from scenes of strife, Our
pair; While flow'rs un - close their dew - y eyes, And
peaceful days are spent. And la - bour o'er with
fra - grance fills the air. Then as we turn the
art - less glee, We laugh and sing right mer - ri - ly, so
new-mown hay, We chant a mer - ry roun - de - lay, a
mer - - ri - - ly.
roun - - de - - lay.
CHORUS.
With a fal, la, la, la,
With a fal, la, la, la,
la, la, la, with a fa, la, with a
la, la, la, with a fal, la, la, la, la, la, la, with a
With a fal, la, la, la, la, la, la, with a

SPECIMEN OF YOUNG'S SCHOOL SINGING-BOOK.

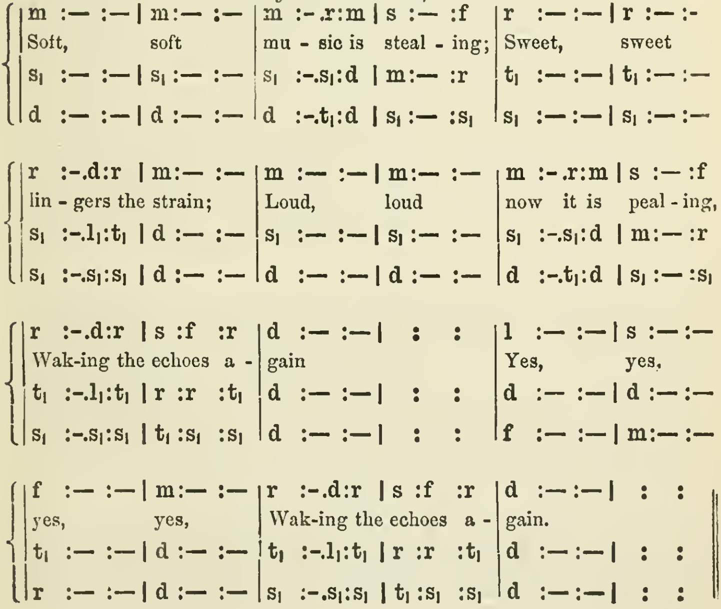

fal la la la la, with a fal la la la la, with a fal la la la la la la.
fal la la la la, with a fal la la la la, with a fal la la la la la la.
fal, la, la, with a fal, la, la, with a fal, la, la la la.

When harvest-time returns again,
The hills and valleys ring,
As waggons fill'd with golden grain,
The reapers homeward bring.
While loudly peal the village bells,
And ev'ry voice the chorus swells, the chorus swells.

Nor do the winter storm and wind,
Our happiness destroy;
Around the social hearth we find
New pleasures we enjoy
With mirthful tale or carol gay,
We pass the evening hours away, the hours away.

SOFT MUSIC IS STEALING.

Key G. *Words by* W. T.—*Music*, German.


Soft, soft mu - sic is steal - ing; Sweet, sweet
lin - gers the strain; Loud, loud now it is peal - ing,
Wak-ing the echoes a - gain Yes, yes,
yes, yes, Wak-ing the echoes a - gain.

Light, light slowly is fading
Far, far off in the west;
Soon, soon nature invading,
Night will invite us to rest.
Yes, yes, &c.

Join, join we in the chorus,
Sing, sing gratitude's lay;
Praise, praise Him who still o'er us
Watches by night and by day.
Yes, yes, &c.

THE 'UNION' SCHOOL-SONG GARLAND,

A COLLECTION OF SONGS FOR SCHOOL AND HOME USE,

The Music arranged for two Trebles and Bass, and printed in "Hamilton's Patent 'Union' Musical Notation."

The great favour with which the "Union School Singing-Book" has been received by Teachers has induced the preparation and issue of the present book of songs, printed in the same notation. The work contains no instructions or lessons in singing, but is simply a collection of songs for practice and recreation. It extends to six Nos., forming a rather extensive collection, embracing a large number of the best German melodies, united to suitable words, with many from American and other sources, together with a larger proportion of the home songs of our own country than it has hitherto been usual to admit into similar collections for children's use. No pains have been spared to obtain good and pleasant melodies, and to unite them to suitable verses. It has been a special object, also, to make the harmonies flowing and singable, while at the same time effective and musician-like. The Editor in his preface says, "It may be mentioned in connection with the harmony, that in Ladies' Schools, or wherever a vocal bass cannot conveniently be had, it may be dispensed with if a piano or harmonium is used; and also, that although the work has been prepared expressly for use in schools, it will be found well suited for recreation at home, when the young folks have a taste for singing, and ability to play, as the music can be very easily played from the vocal score, and no fuller harmony than that set down is required."

The work is complete in six Nos., each No. (of 32 pages) price 3d., containing from 40 to 50 songs, all arranged for three voices, or the whole may be had in one volume bound in cloth price 2s. For the convenience of schools it will be always kept in Nos., which are issued in stiff and tough covers to stand the wear of children's use.

* * *

This is a little publication which is almost certain to attain a wide circulation, because it supplies a want that has been much felt. It professes to be a "collection of songs for school and home use," and this profession on the title-page is amply redeemed in the volume, which contains no fewer than three hundred and fifty popular melodies; some of them very recent—and of these many are extremely bright and sparkling—while others have been the favourites of the nursery and the infant school for two generations back. The words to which these airs are set are generally good and appropriate—indeed, they are in most cases those with which the tune is linked in the popular recollection. The music is written in the "patent union notation," which is an ingenious combination of the ordinary and the tonic sol-fa methods, and is suited for instrumental as well as vocal rendering. The Editor deserves credit for the excellence of his choice, both of words and music.—*Scotsman.*

The "Union School-Song Garland," published by Mr. Hamilton of Glasgow, contains hundreds of favourite and well chosen pieces.—*London Examiner.*

We unhesitatingly pronounce this to be an excellent collection of school songs. The words which in some cases are original, in others adapted, are, without exception, marked by a high moral tone, and are in general very successfully wedded to the music. The airs possess the intrinsic merit of melodiousness, which should be the first requisite of all school music. Besides a wealth of well-known school songs, the collection comprises many of the most beautiful melodies of our own and other countries.—*Aberdeen Herald,*

Sir J. Reynolds